REPORT RESUMES

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A GUIDE FOR EQUIPPING INDUSTRIAL ARTS FACILITIES.

AMERICAN INDUSTRIAL ARTS ASSN., WASHINGTON, D.C.

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DESCRIPTORS- *INDUSTRIAL ARTS, *HAND TOOLS, *EQUIPMENT, GUIDES,

SCHOOL ARCHITECTS, ADMINISTRATORS, PLANNERS, AND INDUSTRIAL ARTS SUPERVISORS AND TEACHERS MAY USE THIS GUIDE IN PLANNING, REVISING, AND EVALUATING FACILITIES. IN THE FIRST PART, HAND TOOLS, MACHINES, AND GENERAL EQUIPMENT ARE LISTED FOR (1) AUTO AND POWER MECHANICS, (2) CERAMICS, (3) DRAFTING, (4) ELECTRICITY-ELECTRONICS, (5) ELEMENTARY, (6) GENERAL SHOP, (7) GRAPHIC ARTS, (8) METALWORKING, (9) PLASTICS, AND (10) WOODWORKING. INFORMATION FOR EACH ITEM OF EQUIPMENT INCLUDES (1) INSTRUCTIONAL LEVEL, (2) A CODE NUMBER CROSS REFERENCE TO THE EQUIPMENT SPECIFICATIONS, (3) ITEM NAME, AND (4) QUANTITY NEEDED FOR 24 STUDENTS. THE SECOND PART, EQUIPMENT SPECIFICATIONS, INCLUDES ITEMS OF EQUIPMENT ARRANGED ALPHABETICALLY AND NUMBERED CHRONOLOGICALLY, THE AREA IN WHICH THE ITEM IS USED, AND, IN MOST CASES, BASIC SIZES, DIMENSIONS, CAPACITIES, AND SAFETY CONSIDERATIONS WHERE THEY APPLY. PRICE LISTS OF AMERICAN STANDARDS FOR SAFETY AND AMERICAN STANDARDS ON CONSUMER GOODS ARE INCLUDED. THIS DOCUMENT IS AVAILABLE FOR $4.75 FROM AMERICAN INDUSTRIAL ARTS ASSOCIATION, NATIONAL EDUCATION ASSOCIATION, 1201 SIXTEENTH STREET, N.W., WASHINGTON, D.C. 20036. (EM)

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A Guide for Equipping Industrial Arts Facilities

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American Industrial Arts Association

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A Guide for Equipping Industrial Arts Facilities

First Edition
prepared by
The Equipment Guide Committee
American Industrial Arts Association

ACKNOWLEDGMENTS

The members of the Equipment Standards Committee are grateful for the generous support that has made the Guide for Equipping Industrial Arts Facilities possible. They are especially indebted to the members of the Research Advisory Committee of Western Washington State College who contributed financial assistance and staff time to the project, to Denis Kigin and the Safety Committee of the American Industrial Arts Association who checked the data and made suggestions concerning the safety aspects of the information provided in this Guide, and to the following persons who served with diligence in the various stages of compilation: Dennis Frimml and Misses Mary Hamelin, Vivian Nieuwsma, and Donna Hamstra.

Sam R. Porter, Chairman
Equipment Standards Committee
American Industrial Arts Association

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FOREWORD

The American Industrial Arts Association holds that well-equipped facilities are essential in providing a substantial and modern program of industrial arts education. To assist in meeting this tenet, the AIAA Executive Board in 1964 made plans for the development of an equipment guide. President Walter C. Brown appointed Sam R. Porter to chair a committee that would gather information and prepare material concerning the equipping of industrial arts facilities and furnished directions for the selection of committee members.

Teachers, supervisors, and teacher educators having specialized knowledge and experience in selected areas of industrial arts and representing different regions of the United States and Canada were named by Committee Chairman Porter and approved by the AIAA Executive Board to serve on the Equipment Guide Committee.

Information presented in Industrial Arts Education: Purposes, Program, Facilities, and Instruction published by the American Council of Industrial Arts Supervisors and Planning Industrial Arts Facilities published by the American Council on Industrial Arts Teacher Education was used in selecting the areas of instruction and types of facilities to be covered in the equipment guide.

The Equipment Guide Committee met during the AIAA national conventions in Washington, D.C., in 1964 and in Tulsa in 1965 to make progress reports on the preparation of the material assigned to each Committee member. A final review of the material was made during the 1966 AIAA national convention in San Francisco. Upon completion of the manuscript, it was submitted to the AIAA Publications Committee for review.

Appreciation is expressed to the members of the Equipment Guide Committee for preparing the material for Guide for Equipping Industrial Arts Facilities; to members of the AIAA Publications Committee for reviewing the manuscript; and to AIAA presidents, Walter C. Brown, Robert S. Swanson, and Earl M. Weber, and members of the executive boards during this three-year period for assisting in the successful culmination of this project.

All persons who have responsibility for selecting and purchasing equipment should find Guide for Equipping Industrial Arts Facilities of great value.

Robert L. Woodward
President, American Industrial Arts Association
1966-67

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INTRODUCTION

Purpose of the Guide:

The purposes of the Guide for Equipping Industrial Arts Facilities are listed as follows:

To provide a guide for school architects, administrators, planners, and industrial arts supervisors and teachers as they plan new and revise existing facilities.

To establish criteria for the evaluation of the conditions of a local facility.

To encourage teachers to improve their local programs.

To assist teachers and supervisors in writing specifications.

To lend the support of a national organization to local requests for equipment.

To provide stability to program requirements during personnel changes.

To serve as a unifying force in industrial arts throughout the United States and Canada.

Criteria for Selection of Equipment:

Using his past industrial and educational experience as the primary criteria for the selection of tools and equipment for inclusion, each committee member attempted to further recognize the following specific criteria:

Tools and equipment to be purchased should be those items which are basic to developing an understanding of industry and its processes and should be restricted to those mandated by the objectives of the course.

A trend toward more experimental and scientific equipment as a result of changes in curriculuar emphasis in this direction should be recognized.

In the school setting there is a necessity for high-quality single purpose tools and machines that require a minimum of maintenance.

In industrial arts education there should be an increasing use of lightweight, portable tools.

Tools and equipment should come from business concerns that have amply demonstrated the worth of their product and the availability of their services and parts.

Terminology and Objectives in Industrial Arts:

The terminology and objectives stated by the American Council of Industrial Arts Supervisors in their publication Industrial Arts Education: Purposes, Programs, Facilities, Instruction (American Industrial Arts Association, 1963) have been recognized by the Equipment Guide Committee as an acceptable guideline for this Guide.

The American Standards Association:

The American Standards Association (ASA) publishes standards for many of the tools, equipment, and processes used in industrial arts education. These standards are published in booklets, each devoted to a single item of equipment or process. A catalog listing the various publications and prices is available from the American Standard Association, 10 East 40th Street, New York City, 10016. The Equipment Guide Committee strongly urges that ASA standards are consulted before purchasing or installing equipment. A listing of the American Standards for Safety is included in this Guide as an example.

A Word of Caution:

The Committee is cognizant of the possibility that this Guide may be misused. At a time when national attention is focused upon major curriculum studies and imminent reorganizations of program and methods, it would be unfortunate if this Guide were considered as the dictum of course organization, content, and procedure. All of the lists are presented as suggestions only; none is perfect. The organization of the material into ten major sections is for convenience only and should not be interpreted to constitute endorsement of any particular type of course organization or offering. Indeed, the Committee encourages curricular innovation and reorganization, but deems it unlikely that the fruits of such innovation will demand tools and equipment too different from those which are listed in the Guide.

Revision:

Because of the changing nature of industrial processes and products, and the changes reflected in industrial arts content and practice, the Committee recognizes a need for constant revision of this Guide. The reader is encouraged to assist in improving future editions of this Guide by submitting suggestions and comments. To facilitate this procedure, addressed postage-paid post cards are included at the end of the Guide; readers are encouraged to use them.

The Format of the Guide:

This volume is divided into two major divisions:

1. Equipment Items by Sections. A listing of the tools and equipment recommended for each of the major areas represented.
2. Equipment Specifications. A master list of the tools and equipment, with general descriptive specifications.

I. EQUIPMENT ITEMS BY SECTIONS

Index:

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Ceramics 19
Drafting 23
Electricity-Electronics 26
Elementary 30
General Shop 34
Graphic Arts 41
Metalworking 46
Plastics 55
Woodworking 61

How to Use the Equipment Lists:

It should be emphasized that the lists presented in each Section are provided as recommendations and should be considered open and flexible. They are suggested only as a guide. However, these list are a summary of the recommenations made by those selected for their experience and expertness in the area they represent.

Any selection of equipment and tools for inclusion in this Guide necessarily involves choices among alternatives. It is not intended that any one school should buy all of the items recommended, nor is this necessary. However, the purchase of all items in each list would assure the kind and amount of equipment sufficient to carry on basic processes within each area. Tools and equipment were omitted when their purchase seemed unreasonable or unwarranted within the industrial arts setting.

Each list contains the following information:

Section

Level—Note that the traditional school grade level is avoided in this listing; introductory experiences are considered as basic regardless of the grade level at which they are offered.

Subsection—Tools and equipment have been grouped according to their common use or association, and have been listed within subsection lists.

Code—A cross-reference to the second division of the Guide.

Item—The common name of the tool, machine, or furnishing.

Number—The quantity recommended is for a class of approximately 24 students. Two Sections (Elementary and General Shop) have unique requirements; instructions for these Sections appear with their respective lists.

AUTO AND POWER MECHANICS

Introductory

I. Hand Tools

Code	Item	Number
0120	Bar, Pry	1
0135	Battery, Storage (6V)	1
0140	Battery, Storage (12V)	1
0395	Body-Fender Tools (set)	1
0445	Brake Adjusting Tool (spoons) (set)	1
0500	Brush, Wire	8
0645	Caliper, Inside (6″)	1
0655	Caliper, Outside (6″)	1
0780	Chisel, Cold (set)	4
0875	Clamp, "C" (4″)	2
0880	Clamp, "C" (6″)	2
0885	Clamp, "C" (8″)	2
0890	Clamp, "C" (10″)	2
0950	Cleaner, Ring groove	1
1030	Compressor, Piston ring	2
1035	Compressor, Valve spring	2
1085	Creeper	4
1140	Cutter, Bolt	1
1220	Cutter, Tubing	1
1250	Die, Letter (set)	1
1255	Die, Number (set)	1
1295	Divider, Spring (6″)	1
1320	Dresser, Abrasive wheel	1
1350	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1
1370	Drill, Twist (number set)	1
1375	Drill, Twist, Straight shank (fractional set)	2
1495	Extension Cord	6
1500	Extractor, Screw (set)	1
1540	Files (see specifications for set detail)	
1550	File Card and Brush	6

Advanced

I. Hand Tools

Code	Item	Number
0075	Automatic Transmission Tool (set)	1
0120	Bar, Pry	1
0135	Battery, Storage (6V)	1
0140	Battery, Storage (12V)	1
0395	Body-Fender Tools (set)	1
0445	Brake Adjusting Tool (spoons) (set)	1
0500	Brush, Wire	2
0640	Caliper, Hermaphrodite	1
0645	Caliper, Inside (6″)	1
0655	Caliper, Outside (6″)	1
0665	Caliper, Vernier	1
0780	Chisel, Cold (set)	4
0875	Clamp, "C" (4″)	2
0880	Clamp, "C" (6″)	2
0885	Clamp, "C" (8″)	2
0890	Clamp, "C" (10″)	2
0950	Cleaner, Ring groove	1
1030	Compressor, Piston ring	2
1035	Compressor, Valve spring	2
1085	Creeper	4
1140	Cutter, Bolt	1
1145	Cutter, Brushing	1
1195	Cutter, Muffler	1
1205	Cutter, Pipe	1
1220	Cutter, Tubing	1
1250	Die, Letter (set)	1
1255	Die, Number (set)	1
1295	Divider, Spring (6″)	1
1310	Dolly, Body (set)	1
1320	Dresser, Abrasive wheel	1
1350	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1
1370	Drill, Twist (number set)	1
1375	Drill, Twist, Straight shank (fractional set)	2
1495	Extension Cord	6
1500	Extractor, Screw (set)	1
1540	Files (see specifications for set detail)	
1550	File Card and Brush	6

1560	File, Contact point (ignition)	1
1625	Flywheel holder	1
1715	Gauge, Belt tension	1
1725	Gauge, Center	1
1730	Gauge, Cylinder pressure	1
1745	Gauge, Drill, Fractions	1
1750	Gauge, Drill, Number	1
1760	Gauge, Ignition (set)	2
1810	Gauge, Spark plug	3
1815	Gauge, Spring tension	1
1830	Gauge, Thickness ("feeler")	8
1835	Gauge, Tire pressure	2
1845	Gauge, Vacuum and low pressure	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1885	Gloves, Leather (pair)	2
1900	Goggles (spectacles), Clear observation	6
1905	Goggles, Gas welding	4
1950	Grease Gun, Suction, General purpose	1
2020	Hammer, Ball peen (4 oz.)	4
2025	Hammer, Ball peen (8 oz.)	4
2035	Hammer, Ball peen (16 oz.)	4
2055	Hammer, Brass head	2
2085	Hammer, Claw (16 oz.)	1
2090	Hammer, Engineer's (40 oz.)	2
2105	Hammer, Lead	2
2135	Hammer, Soft face (8 oz.)	2
2140	Helmet, Welding (hand type)	3
2145	Helmet, Welding (arc) (head type)	2
2200	Hydrometer	1

1560	File, Contact point (ignition)	1
1605	Flaring Tool (set)	1
1625	Flywheel holder	1
1715	Gauge, Belt tension	1
1720	Gauge, Carburetor (set)	1
1725	Gauge, Center	1
1730	Gauge, Cylinder pressure	1
1745	Gauge, Drill, Fractions	1
1750	Gauge, Drill, Number	1
1760	Gauge, Ignition (set)	2
1800	Gauge, Screw pitch	2
1810	Gauge, Spark plug	3
1815	Gauge, Spring tension	1
1820	Gauge, Surface	1
1830	Gauge, Thickness ("feeler")	8
1835	Gauge, Tire pressure	2
1845	Gauge, Vacuum and low pressure	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1885	Gloves, Leather (pair)	2
1900	Goggles (spectacles), Clear observation	6
1905	Goggles, Gas welding	4
1950	Grease Gun, Suction, General purpose	1
2020	Hammer, Ball peen (4 oz.)	4
2025	Hammer, Ball peen (8 oz.)	4
2035	Hammer, Ball peen (16 oz.)	4
2055	Hammer, Brass head	2
2060	Hammer, Chasing	1
2065	Hammer, Chipping	2
2085	Hammer, Claw (16 oz.)	1
2090	Hammer, Engineer's (40 oz.)	2
2105	Hammer, Lead	2
2125	Hammer, Sledge	1
2135	Hammer, Soft face (8 oz.)	2
2140	Helmet, Welding (hand type)	3
2145	Helmet, Welding (arc) (head type)	2
2200	Hydrometer	1

2540	Mallet, Rawhide	2
2545	Mallet, Rubber	2
2620	Micrometer, Inside	1
2625	Micrometer, Outside (1″)	1
2630	Micrometer, Outside (2″)	1
2635	Micrometer, Outside (3″)	1
2835	Nipper, End cutting	1
2845	Nozzle, Blow gun (air line)	1
2865	Oiler, Bench	6
2870	Oiler, Pump	6
2875	Oiler, Straight	6
2890	Oilstone, Combination, India	2
2895	Oilstone, Combination, Silicon carbide	2
2925	Packer, Wheel bearing	1
3065	Pliers, Battery	2
3075	Pliers, Brake	2
3080	Pliers, Chain	1
3085	Pliers, Combination (6″)	8
3090	Pliers, Combination (8″)	6
3100	Pliers, Diagonal cutting	2
3120	Pliers, Ignition	2
3135	Pliers, Needle nose	4
3140	Pliers, Retaining ring	2
3150	Pliers, Side-cutting	8
3170	Pliers, Vise-grip wrench	2
3175	Pliers, Waterpump	2
3235	Press, Arbor	1
3390	Puller Assembly	1
3445	Pump, Oil drum	2
3455	Punch, Center (set)	4
3470	Punch, Drift (set)	4
3500	Punch, Pin (set)	1
3610	Reels, Drop cord	4

2210	Indicator, Dial test	1
2540	Mallet, Rawhide	2
2545	Mallet, Rubber	2
2620	Micrometer, Inside	1
2625	Micrometer, Outside (1″)	1
2630	Micrometer, Outside (2″)	1
2635	Micrometer, Outside (3″)	1
2640	Micrometer, Outside (4″)	1
2645	Micrometer, Outside (5″)	1
2835	Nipper, End cutting	1
2845	Nozzle, Blow gun (air line)	1
2865	Oiler, Bench	6
2870	Oiler, Pump	6
2875	Oiler, Straight	6
2890	Oilstone, Combination, India	2
2895	Oilstone, Combination, Silicon carbide	2
2925	Packer, Wheel bearing	1
3065	Pliers, Battery	2
3075	Pliers, Brake	2
3080	Pliers, Chain	1
3085	Pliers, Combination (6″)	8
3090	Pliers, Combination (8″)	6
3100	Pliers, Diagonal cutting	2
3115	Pliers, Hose clamp, Radiator and gas line	1
3120	Pliers, Ignition	2
3135	Pliers, Needle nose	4
3140	Pliers, Retaining ring	2
3150	Pliers, Side-cutting	8
3170	Pliers, Vise-grip wrench	2
3175	Pliers, Waterpump	2
3235	Press, Arbor	1
3390	Puller Assembly	1
3395	Puller Assembly (large)	1
3405	Puller, Axle	1
3410	Puller, Freeze plug	1
3415	Puller, Gear (set)	1
3420	Puller, Seal (set)	1
3425	Puller, Steering wheel	1
3430	Puller, Valve guide and valve	1
3435	Puller, Wheel (set)	1
3445	Pump, Oil drum	2
3455	Punch, Center (set)	4
3470	Punch, Drift (set)	4
3500	Punch, Pin (set)	1
3585	Reamer, Cylinder ridge	1
3610	Reels, Drop cord	4
3625	Remover, Stud (set)	1

3705	Rule, Flexible steel tape (10′)	1
3750	Rule, Steel (12″)	4
3850	Saw, Hack (hand)	4
3965	Scissors	2
3985	Scraper, Carbon	8
4025	Screwdriver, Clutchhead	1
4050	Screwdriver, Phillips (set)	2
4075	Screwdriver, Standard bit (square blade) (4″)	2
4080	Screwdriver, Standard bit (square blade) (6″)	2
4085	Screwdriver, Standard bit (square blade) (8″)	2
4090	Screwdriver, Standard bit (square blade) (10″)	2
4095	Screwdriver, Standard bit (square blade) (12″)	2
4100	Screwdriver, Standard bit ("stubby")	4
4105	Scriber	2
4165	Shield, Face	4
4275	Snips, Tinner's, Straight (#8)	1
4335	Soldering Gun, Electric	1
4435	Spout, Pouring, Oil can	1
4640	Strap, Battery	2
4760	Tap and Die, NC (U.S.S.) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1
4770	Tap and Die, Pipe (set)	1
4815	Tester, Battery cell	1
4845	Tester, Radiator pressure	1
5255	Wrench, Adjustable end (6″)	2

3645	Rethreader, Axle	1
3650	Rethreader, Spark plug hole	1
3705	Rule, Flexible steel tape (10′)	1
3750	Rule, Steel (12″)	4
3850	Saw, Hack (hand)	4
3965	Scissors	2
3985	Scraper, Carbon	8
4025	Screwdriver, Clutchhead	1
4050	Screwdriver, Phillips (set)	2
5060	Screwdriver, Spiral ratchet	1
4075	Screwdriver, Standard bit (square blade) (4″)	2
4080	Screwdriver, Standard bit (square blade) (6″)	2
4085	Screwdriver, Standard bit (square blade) (8″)	2
4090	Screwdriver, Standard bit (square blade) (10″)	2
4095	Screwdriver, Standard bit (square blade) (12″)	2
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4275	Snips, Tinner's, Straight (#8)	1
4335	Soldering Gun, Electric	1
4435	Spout, Pouring, Oil can	1
4640	Strap, Battery	2
4760	Tap and Die, NC (U.S.S.) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1
4770	Tap and Die, Pipe (set)	1
4815	Tester, Battery cell	1
4845	Tester, Radiator pressure	1
4930	Tool, Drag link and shock arm	1
4935	Tool Holder, Lathe (left hand)	1
4940	Tool Holder, Lathe (right hand)	1
4945	Tool Holder, Lathe (straight)	1
4955	Torch, Propane (kit)	1
5255	Wrench, Adjustable end (6″)	2

5260	Wrench, Adjustable end (8″)	2	**5260**	Wrench, Adjustable end (8″)	2
5265	Wrench, Adjustable end (10″)	2	**5265**	Wrench, Adjustable end (10″)	2
5270	Wrench, Adjustable end (12″)	2	**5270**	Wrench, Adjustable end (12″)	2
5275	Wrench, Adjustable end (monkey)	2	**5275**	Wrench, Adjustable end (monkey)	2
5280	Wrench, Allen key (hex) (set)	2	**5280**	Wrench, Allen key (hex) (set)	2
5290	Wrench, Combination box and open end (set)	4	**5290**	Wrench, Combination box and open end (set)	4
5295	Wrench, Combination box and open end (metric) (set)	1	**5295**	Wrench, Combination box and open end (metric) (set)	1
5300	Wrench, Deep socket (⅜″ drive) (set)	1	**5300**	Wrench, Deep socket (⅜″ drive) (set)	1
5305	Wrench, Deep socket (½″ drive) (set)	1	**5305**	Wrench, Deep socket (½″ drive) (set)	1
5310	Wrench, Drain plug	2	**5310**	Wrench, Drain plug	2
5325	Wrench, Lug	2	**5325**	Wrench, Lug	2
			5315	Wrench, Flare nut (set)	1
5320	Wrench, Ignition (set)	1	**5320**	Wrench, Ignition (set)	1
5340	Wrench, Pipe (10″)	2	**5340**	Wrench, Pipe (10″)	2
			5350	Wrench, Pipe (18″)	1
5355	Wrench, Socket (¼″ drive) (set)	2	**5355**	Wrench, Socket (¼″ drive) (set)	2
5360	Wrench, Socket (⅜″ drive) (set)	4	**5360**	Wrench, Socket (⅜″ drive) (set)	4
5365	Wrench, Socket (½″ drive) (set)	6	**5365**	Wrench, Socket (½″ drive) (set)	6
			5370	Wrench, Socket (metric) (set)	2
			5375	Wrench, Socket, Flex handle (⅜″ drive)	2
			5380	Wrench, Socket, Flex handle (½″ drive)	2
5385	Wrench, Socket, Handle extension (⅜″ drive) (4″)	2	**5385**	Wrench, Socket, Handle extension (⅜″ drive) (4″)	2
5390	Wrench, Socket, Handle extension (⅜″ drive) (3″)	2	**5390**	Wrench, Socket, Handle extension (⅜″ drive) (3″)	2
5395	Wrench, Socket, Handle extension (⅜″ drive) (set)	2	**5395**	Wrench, Socket, Handle extension (⅜″ drive) (set)	2
5400	Wrench, Socket, Handle extension (½″ drive) (3″)	2	**5400**	Wrench, Socket, Handle extension (½″ drive) (3″)	2

5405	Wrench, Socket, Handle extension (½″ drive) (8″)	2
5410	Wrench, Socket, Handle extension (½″ drive) (set)	2
5415	Wrench, Socket, Reversible ratchet handle (¼″ drive)	2
5420	Wrench, Socket, Reversible ratchet handle (⅜″ drive)	4
5425	Wrench, Socket, Reversible ratchet handle (½″ drive)	6
5430	Wrench, Socket, Speed handle (¼″ drive)	2
5435	Wrench, Socket, Speed handle (⅜″ drive)	4
5440	Wrench, Socket, Speed handle (½″ drive)	6
5450	Wrench, Socket, Universal joint attachment (⅜″ drive) (set)	2
5455	Wrench, Socket, Universal joint attachment (½″ drive) (set)	4
5460	Wrench, Tappet (set)	1
5465	Wrench, Torque (⅜″ drive)	1
5470	Wrench, Torque (½″ drive)	1

II. Machines and General Equipment

Code	Item	Number
0045	Anvil	1
0130	Battery Eliminator and Charger	1
0350	Bleeder, Brake	1

5405	Wrench, Socket, Handle extension (½″ drive) (8″)	2
5410	Wrench, Socket, Handle extension (½″ drive) (set)	2
5415	Wrench, Socket, Reversible ratchet handle (¼″ drive)	2
5420	Wrench, Socket, Reversible ratchet handle (⅜″ drive)	4
5425	Wrench, Socket, Reversible ratchet handle (½″ drive)	6
5430	Wrench, Socket, Speed handle (¼″ drive)	2
5435	Wrench, Socket, Speed handle (⅜″ drive)	4
5440	Wrench, Socket, Speed handle (½″ drive)	6
5445	Wrench, Socket, Universal joint attachment (¼″ drive)	2
5450	Wrench, Socket, Universal joint attachment (⅜″ drive) (set)	2
5455	Wrench, Socket, Universal joint attachment (½″ drive) (set)	4
5460	Wrench, Tappet (set)	1
5465	Wrench, Torque (⅜″ drive)	1
5470	Wrench, Torque (½″ drive)	1

II. Machines and General Equipment

Code	Item	Number
0020	Aligner, Connecting rod	1
0030	Alternator-Generator-Regulator Test Stand	1
0035	Analyzer, Capacitor	1
0040	Analyzer, Engine	1
0045	Anvil	1
0130	Battery Eliminator and Charger	1
0350	Bleeder, Brake	1
0420	Boring Bar (cylinder set)	1

			0455	Brake, Service shop machine	1
			0690	Can, Carwash	1
0695	Can, Oil filler and measure (1 qt.)	2	**0695**	Can, Oil filler and measure (1 qt.)	2
0700	Can, Oil filler and measure (2 qt.)	1	**0700**	Can, Oil filler and measure (2 qt.)	1
0705	Can, Oil filler and measure (5 qt.)	1	**0705**	Can, Oil filler and measure (5 qt.)	1
0710	Can, Oily waste	3	**0710**	Can, Oily waste	3
			0715	Can, Radiator	1
0720	Can, Safety (1 qt.)	3	**0720**	Can, Safety (1 qt.)	3
0725	Can, Safety (1 gal.)	2	**0725**	Can, Safety (1 gal.)	2
			0735	Carburetor Repair set	1
0955	Cleaner, Spark plug	1	**0955**	Cleaner, Spark plug	1
			0960	Cleaner, Valve guide	1
			0965	Clutch Aligner	1
			1075	Crane, Portable	1
1330	Drill, Electric, Portable (¼″)	2	**1330**	Drill, Electric, Portable (¼″)	2
1335	Drill, Electric, Portable (⅜″)	1	**1335**	Drill, Electric, Portable (⅜″)	1
			1340	Drill, Electric, Portable (½″)	1
1435	Engine, Automobile	1	**1435**	Engine, Automobile	1
1440	Engine, Diesel	1	**1440**	Engine, Diesel	1
1445	Engine, Outboard motor	1	**1445**	Engine, Outboard motor	1
			1450	Engine, Rocket (small or model)	1
1455	Engine, Small (2-cycle)	1	**1455**	Engine, Small (2-cycle)	1
1460	Engine, Small (4-cycle)	1	**1460**	Engine, Small (4-cycle)	1
			1465	Engine, Steam (model)	1
1470	Engine, Turbine (small)	1	**1470**	Engine, Turbine (small)	1
			1670	Funnel, Longspout, Automatic transmission	1
			1705	Galvanometer	1
1930	Grease Gun	1	**1930**	Grease Gun	1
			1935	Grease Gun, Chassis	1
			1940	Grease Gun, Extended interval	1
			1945	Grease Gun, Gear lube	1
1965	Grinder, Edge tool (bench)	1	**1965**	Grinder, Edge tool (bench)	1
			1970	Grinder, Flexible shaft	1
			1985	Grinder, Pedestal	1
			1995	Grinder, Valve (set)	1
2005	Growler, Armature testing	1	**2005**	Growler, Armature testing	1
2010	Gun, Engine cleaning	1	**2010**	Gun, Engine cleaning	1
2150	Hoist, Double post	1	**2150**	Hoist, Double post	1
2155	Hoist, Single post	1	**2155**	Hoist, Single post	1

2160	Hone, Brake cylinder (set)	1	**2160**	Hone, Brake cylinder (set)	1
			2165	Hone, Cylinder (to 7″)	1
			2170	Hone, Pin	1
			2195	Hydraulic Instruction Unit	1
2215	Jack, Auto bumper (double-saddle type)	1	**2215**	Jack, Auto bumper (double-saddle type)	1
2220	Jack, Auto, Hydraulic (floor type) (1½ ton)	2	**2220**	Jack, Auto, Hydraulic (floor type) (1½ ton)	2
2225	Jack, Auto, Hydraulic (standard type) (1½ ton)	1	**2225**	Jack, Auto, Hydraulic (standard type) (1½ ton)	1
			2230	Jack, Auto, Hydraulic (standard type) (2 ton)	1
			2405	Lamps, Drying (set)	1
			2410	Lathe, Armature	1
			2415	Lathe, Metalworking (10″)	1
			2470	Lift, Engine safety	1
			2665	Milliammeter, Volt-ohm	2
			2785	Motor Stand, Universal	2
			2795	Multiscope	1
			3190	Pneumatic Instruction Center (pneumatic power unit)	1
3195	Polisher, Body	1	**3195**	Polisher, Body	1
3250	Press, Drill (15″)	1	**3250**	Press, Drill (15″)	1
			3255	Press, Drill (17″)	1
			3400	Puller, Auto body metal (set)	1
			3570	Radiator Test Plugs (set)	1
			3595	Reamer, Expansion (set)	1
			3605	Reamer, Valve seat (set)	1
			3615	Refacer, Valve (set)	1
			3655	Rheostat, 10 ohm	1
			3800	Sander, Finishing, Portable, Air	1
			4455	Spray Gun Outfit	1
			4725	Tachometer	1
			4740	Tank, Hot boiling	1
4745	Tank, Parts cleaning, Solvent	1	**4745**	Tank, Parts cleaning, Solvent	1
			4820	Tester, Coil and condenser	1
			4825	Tester, Distributor	1
			4975	Transformer, Step-down	1
			4980	Transformer, Step-up	1
			5065	Truck, Welding cylinder	1
5140	Vise, Machinist's bench	1	**5140**	Vise, Machinist's bench	1
			5185	Welder, Arc	1

III. General Furnishings

Code	Item	Number
0210	Bench, Metalworking (4 place)	2
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	12
0540	Cabinet, Filing	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
2175	Hose, Air	1
2180	Hose, Exhaust, Garage	1
2185	Hose, Water	1
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
4010	Screen, Projection	1
4580	Stand, Auto safety (2 ton)	20
4585	Stand, Auto safety (7 ton)	6
4690	Table, Overhead projector	1

5520	Welding Outfit, Oxyacetylene	1
5235	Wheel Alignment Set	1
5240	Wheel Balancer	1

III. General Furnishings

Code	Item	Number
0210	Bench, Metalworking (4 place)	2
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	12
0540	Cabinet, Filing	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
2175	Hose, Air	1
2180	Hose, Exhaust, Garage	1
2185	Hose, Water	1
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
4010	Screen, Projection	1
4580	Stand, Auto safety (2 ton)	20
4585	Stand, Auto safety (7 ton)	6
4690	Table, Overhead projector	1
5225	Welding Screen, Portable	1

CERAMICS

Introductory

I. Raw Material Preparation and Storage

Code	Item	Number
0425	Box, Clay storage, Portable	1
0525	Cabinet, Damp-proof	2

Advanced

I. Raw Material Preparation and Storage

Code	Item	Number
0425	Box, Clay storage, Portable	2
0525	Cabinet, Damp-proof	1
1585	Filter Press (laboratory model)	1

2790	Muller Mixer	1
3385	Pug Mill, Extrusion	1
3380	Pug Mill, Vertical	1
3440	Pulverizer, Laboratory model	1
4625	Storage Unit, Clay	1
5175	Wedging Boards	1
5180	Wedging Table	1

II. Material Forming

Code	Item	Number
0110	Banding Wheel, Potter's bench	6
0200	Bench, Marble slab	1
0375	Blunger	1
1385	Dry Press	1
1520	Extrusion Machine, Auger type	1
2250	Jigger, Electric (industrial model)	1
2350	Knife, Mold maker's	6
2695	Mixer, Slow speed (portable)	1
2705	Modeling Tool (set)	6
3050	Plaster Working Tool	6
3200	Potter's Wheel, Electric	1
3205	Potter's Wheel, Kick	1
3210	Potter's Wheel, Side-kick	1
4705	Table, Casting	1
4735	Tank, Agitated storage	1
4895	Throwing Ribs, Wooden (set)	6
5245	Wheel Turning Tool (set)	1

III. Glazing

Code	Item	Number
0105	Ball Mill, Roller type	1
0555	Cabinet, Glaze and library	1
1025	Compressor, Air	1
1915	Graduate, Cylinder (100cc)	3

2790	Muller Mixer	1
3370	Pug Mill, Laboratory model	1
3375	Pug Mill, Studio model	1
3380	Pug Mill, Vertical	1
4625	Storage Unit, Clay	2
5180	Wedging Table	1

II. Material Forming

Code	Item	Number
0110	Banding Wheel, Potter's bench	12
0200	Bench, Marble slab	1
0375	Blunger	1
1385	Dry Press	1
1520	Extrusion Machine, Auger type	1
2250	Jigger, Electric (industrial model)	1
2350	Knife, Mold maker's	6
2695	Mixer, Slow speed (portable)	1
2705	Modeling Tool (set)	6
3050	Plaster Working Tool	6
3200	Potter's Wheel, Electric	2
3205	Potter's Wheel, Kick	2
3210	Potter's Wheel, Side-kick	2
4705	Table, Casting	1
4735	Tank, Agitated storage	1
4895	Throwing Ribs, Wooden (set)	6
5245	Wheel Turning Tool (set)	1

III. Glazing

Code	Item	Number
0105	Ball Mill, Roller type	2
0555	Cabinet, Glaze and library	1
1025	Compressor, Air	1
1915	Graduate, Cylinder (100cc)	3

1920	Graduate, Cylinder (500cc)	3
2240	Jars, Grinding	3
2770	Mortar and Pestle	6
3945	Scale, Laboratory	1
3960	Scale, Triple beam	1
4115	Seive, Test laboratory	6
4445	Spray Booth, Dry	1
4460	Spray Gun, Touch-up	1

IV. Enameling

Code	Item	Number
0065	Atomizer	1
1595	Firing Racks	3
1645	Fork, Firing	1
2290	Kiln, Enameling	1
4175	Sifter	2
5040	Trivets	3

V. Firing

Code	Item	Number
1680	Furnace, Crucible	1
2280	Kiln Cut-Off, Automatic (heat control device)	1
2285	Kiln, Electric	1
2295	Kiln, Front loading	
2300	Kiln, Gas	1
2305	Kiln, Starter	1
2310	Kiln, Top loading	1
3510	Pyrometer, Optical	1
3515	Pyrometer, Portable	1
3520	Pyrometer, Radiation	1

VI. Decoration—Finishing

Code	Item	Number
0015	Airbrush	1
0530	Cabinet, Drying	1
2325	Knife, Fettling	1
3990	Scraper, Flexible	1
4000	Scraper, Rigid	1
5170	Ware Truck	1

1920	Graduate, Cylinder (500cc)	3
2240	Jars, Grinding	3
2770	Mortar and Pestle	6
3945	Scale, Laboratory	1
3960	Scale, Triple beam	1
4115	Seive, Test laboratory	6
4445	Spray Booth, Dry	1
4460	Spray Gun, Touch-up	1

IV. Enameling

Code	Item	Number
0065	Atomizer	1
1595	Firing Racks	3
1645	Fork, Firing	1
2290	Kiln, Enameling	1
4175	Sifter	3
5040	Trivets	3

V. Firing

Code	Item	Number
1680	Furnace, Crucible	1
2280	Kiln Cut-Off, Automatic (heat control device)	1
2285	Kiln, Electric	1
2295	Kiln, Front loading	
2300	Kiln, Gas	1
2305	Kiln, Starter	1
2310	Kiln, Top loading	1
3510	Pyrometer, Optical	1
3515	Pyrometer, Portable	1
3520	Pyrometer, Radiation	1

VI. Decoration—Finishing

Code	Item	Number
0015	Airbrush	1
0530	Cabinet, Drying	1
2325	Knife, Fettling	1
3990	Scraper, Flexible	1
4000	Scraper, Rigid	1
5170	Ware Truck	1

VII. Cast Stone

Code	Item	Number
2570	Mason's Tools, Cement (set)	1
2775	Mortar Box	1
		1

VIII. General Furnishings and Hand Tools

Code	Item	Number
0255	Bench, Woodworking (4 place)	1
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	6
0540	Cabinet, Filing	1
0720	Can, Safety (1 qt.)	2
0725	Can, Safety (1 gal.)	2
0755	Chair, Teacher's	1
1235	Desk, Teacher's	1
1355	Drill, Hand (⅜″)	1
1590	Finishing Rubber	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
1710	Gauge, Auger bit	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1900	Goggles (spectacles), Clear observation	12
1960	Grinder-Buffer, Bench, Combination	1
2475	Lift, Pallet	1
2765	Molds, Ceramics, Assorted	6
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3085	Pliers, Combination (6″)	2
3250	Press, Drill (15″)	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1

VII. Cast Stone

Code	Item	Number
2570	Mason's Tools, Cement (set)	1
2775	Mortar Box	1
		1

VIII. General Furnishings and Hand Tools

Code	Item	Number
0255	Bench, Woodworking (4 place)	1
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	6
0540	Cabinet, Filing	1
0720	Can, Safety (1 qt.)	2
0725	Can, Safety (1 gal.)	2
0755	Chair, Teacher's	1
1125	Crusher, Jaw (laboratory model)	1
1235	Desk, Teacher's	1
1355	Drill, Hand (⅜″)	1
1590	Finishing Rubber	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
1710	Gauge, Auger bit	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1900	Goggles (spectacles), Clear observation	12
1960	Grinder-Buffer, Bench, Combination	1
2475	Lift, Pallet	1
2765	Molds, Ceramics, Assorted	6
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3085	Pliers, Combination (6″)	2
3250	Press, Drill (15″)	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1

3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
4010	Screen, Projection	1
4165	Shield, Face	6
4415	Sponge, Elephant ear shape	3
4420	Sponge, Sheep wool	3
4690	Table, Overhead projector	1

3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3450	Pump, Slip, Duplex	1
4010	Screen, Projection	1
4165	Shield, Face	6
4415	Sponge, Elephant ear shape	6
4420	Sponge, Sheep wool	6
4440	Spray Booth, Ceramic	1
4690	Table, Overhead projector	1

DRAFTING

Introductory

I. Audio-Visual Equipment

Code	Item	Number
0985	Compass, Chalkboard	1
1275	Display Board	1
1280	Divider, Blackboard	1
3325	Projection Box, Plastic	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3355	Protractor, Chalkboard	1
3930	Scale, Chalkboard (demonstration)	1
4010	Screen, Projection	1
5020	Triangle, Chalkboard, 30°-60°	1
5025	Triangle, Chalkboard, 45°	1

II. Instruments and Tools

Code	Item	Number
0480	Brush, Duster, Draftsman's	24

Advanced

I. Audio-Visual Equipment

Code	Item	Number
0985	Compass, Chalkboard	1
1275	Display Board	1
1280	Divider, Blackboard	1
3330	Projection Box, Plastic, Instructor's	1
3335	Projection Box, Plastic, Student's	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3355	Protractor, Chalkboard	1
3930	Scale, Chalkboard (demonstration)	1
4010	Screen, Projection	1
5020	Triangle, Chalkboard, 30°-60°	1
5025	Triangle, Chalkboard, 45°	1

II. Instruments and Tools

Code	Item	Number
0480	Brush, Duster, Draftsman's	24

0975	Compass and Divider (set)	24
0980	Compass, Beam	4
1130	Curve, Irregular (set)	1
1200	Cutter, Paper	1
1265	Dispenser, Drafting tape	2
1480	Eraser Shields	24
2455	Lettering Guide Line Instrument	24
2880	Oilstone, Arkansas	1
2965	Pencil Pointer, Lead pencil	24
2970	Pencil Pointer, Mechanical	1
2975	Pencil Sharpener, Draftsman's	1
2980	Pencil Sharpener, Standard	1
3365	Protractor, Semi-circular	6
3925	Scale, Architect's	24
3950	Scale, Mechanical engineer's	6
3965	Scissors	1

0975	Compass and Divider (set)	24
0980	Compass, Beam	4
0990	Compass, Drop bow	1
1130	Curve, Irregular (set)	1
1135	Curve, Rule (adjustable)	1
1200	Cutter, Paper	1
1265	Dispenser, Drafting tape	2
1285	Divider, Proportional	2
1480	Eraser Shields	24
1655	Fountain Pen (technical set)	6
1870	Geometric Shapes (set)	1
2455	Lettering Guide Line Instrument	12
2460	Lettering Set	1
2880	Oilstone, Arkansas	1
2935	Pantograph, Drafting	1
2950	Pen Holder	24
2955	Pen Set	24
2960	Pen, Speedball (set)	1
2965	Pencil Pointer, Lead pencil	24
2970	Pencil Pointer, Mechanical	1
2975	Pencil Sharpener, Draftsman's	1
2980	Pencil Sharpener, Standard	1
3365	Protractor, Semi-circular	6
3630	Repair Kit, Drafting instrument	1
3925	Scale, Architect's	24
3935	Scale, Decimal, Civil engineer's	12
3950	Scale, Mechanical engineer's	12
3955	Scale, Metric	1
3965	Scissors	1
4190	Sign-maker Set	1
4635	Straight Edge, Parallel ruling	12
4780	Template, Architectural	12
4785	Template, Electronic	6
4790	Template, Isometric circle	6
4795	Template, Isometric circle, Large	6
4800	Template, Large circle	24
4805	Template, Nuts and bolts	5

4990	Triangle, 30°-60° (8″)	24
5000	Triangle, 45° (6″)	24
5070	T Square	24

III. Machines

Code	Item	Number
2515	Machine, Reproduction (dry type)	1
2520	Machine, Reproduction (moist type)	1
2565	Marking Tool, Electric	1

IV. General Furnishings

Code	Item	Number
0385	Board, Drafting	24
0405	Bookcase	1
0465	Broom, Push	2
0470	Brush, Bench	12
0540	Cabinet, Filing	1
0620	Cabinet, Storage	2
0755	Chair, Teacher's	1
1235	Desk, Teacher's	1
1240	Desk, Teacher's standing	1
2932	Pan, Dust	1
4610	Stool, Instructor's	1
4615	Stool, Student's adjustable	24
4670	Table, Drafting	24
4690	Table, Overhead projector	1

4995	Triangles, 30°-60° (10″ and 12″)	24
5005	Triangle, 45° (8″)	24
5010	Triangle, 45° (12″)	3
5015	Triangle, Adjustable (10″)	6
5070	T Square	24

III. Machines

Code	Item	Number
1485	Erasing, Machine, Elec.	1
2505	Machine, Drafting (18″)	8
2510	Machine, Drafting (24″)	4
2515	Machine, Reproduction (dry type)	1
2520	Machine, Reproduction (moist type)	1
2565	Marking Tool, Electric	1

IV. General Furnishings

Code	Item	Number
0385	Board, Drafting	24
0405	Bookcase	1
0465	Broom, Push	2
0470	Brush, Bench	12
0540	Cabinet, Filing	1
0620	Cabinet, Storage	2
0755	Chair, Teacher's	1
1235	Desk, Teacher's	1
1240	Desk, Teacher's standing	1
1555	File, Drafting	1
1660	Frame, Printing	1
2932	Pan, Dust	1
3550	Rack, Magazine	1
4610	Stool, Instructor's	1
4615	Stool, Student's adjustable	24
4670	Table, Drafting	24
4690	Table, Overhead projector	1
4700	Table, Planning	1

V. Miscellaneous			V. Miscellaneous		
Code	Item	Number	Code	Item	Number
			0645	Caliper, Inside (6″)	1
			0655	Caliper, Outside (6″)	1
1250	Die, Letter (set)	1	**1250**	Die, Letter (set)	1
1255	Die, Number (set)	1	**1255**	Die, Number (set)	1
1495	Extension Cord	1	**1495**	Extension Cord	1
1593	Fire Extinguisher	1	**1593**	Fire Extinguisher	1
1600	First Aid Kit	1	**1600**	First Aid Kit	1
			1800	Gauge, Screw pitch	1
1855	Gauge, Wire and sheet metal (American)	1	**1855**	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1	**1860**	Gauge, Wire and sheet metal (U.S.S.)	1
2085	Hammer, Claw (16 oz.)	1	**2085**	Hammer, Claw (16 oz.)	1
			2315	Knife, Carving (set)	6
			2625	Micrometer, Outside (1″)	1
3155	Pliers, Straight nose	1	**3155**	Pliers, Straight nose	1
3495	Punch, Paper	1	**3495**	Punch, Paper	1
			3710	Rule, Flexible, Steel tape (12′)	1
			3723	Rule, Flexible, Steel tape (100′)	1
4050	Screwdriver, Phillips (set)	1	**4050**	Screwdriver, Phillips (set)	1
4070	Screwdriver, Standard bit (round blade) (set)	1	**4070**	Screwdriver, Standard bit (round blade) (set)	1
4080	Screwdriver, Standard bit (square blade) (6″)	1	**4080**	Screwdriver, Standard bit (square blade) (6″)	1
			4485	Square, Combination set (with protractor and center head)	1
4595	Stapler, Hand	1	**4595**	Stapler, Hand	1
			4775	T Bevel, Sliding	1

ELECTRICITY-ELECTRONICS

Introductory			**Advanced**		
I. Small Tools and Equipment			I. Small Tools and Equipment		
Code	Item	Number	Code	Item	Number
0025	Alignment Tool (set)	2	**0025**	Alignment Tool (set)	2
0285	Bit, Auger (set)	1	**0285**	Bit, Auger (set)	1
0335	Bit, Screwdriver (set)	2	**0335**	Bit, Screwdriver (set)	2
0340	Bit, Speed (set)	2	**0340**	Bit, Speed (set)	2
0430	Brace, Ratchet	1	**0430**	Brace, Ratchet	1

0450	Brake, Box and pan	1
0780	Chisel, Cold (set)	1
0970	Coil Winder	1
1070	Countersink, High speed	1
1090	Crimping Tool	2
1250	Die, Letter (set)	1
1255	Die, Number (set)	1
1305	Divider, Wing	1
1330	Drill, Electric, Portable (1/4″)	1
1350	Drill, Hand (1/4″)	1
1360	Drill Stand, Fractional	1
1365	Drill, Twist (letter set)	1
1370	Drill, Twist (number set)	1
1375	Drill, Twist, Straight shank (fractional set)	1
1495	Extension Cord	2
1540	Files (see specifications for listing)	
1550	File Card and Brush	6
1565	File, Jeweler's (set)	1
1570	File, Needle (set)	1
1710	Gauge, Auger bit	1
1800	Gauge, Screw pitch	1
1830	Gauge, Thickness ("feeler")	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1900	Goggles (spectacles), Clear observation	12
1985	Grinder, Pedestal	1
2030	Hammer, Ball peen (12 oz.)	6
2035	Hammer, Ball peen (16 oz.)	6
2085	Hammer, Claw (16 oz.)	6
2320	Knife, Electrician's	6
2530	Magnet, Bar	24
2830	Nibbler, Hand operated	2
2865	Oiler, Bench	1
2890	Oilstone, Combination, India	2
2895	Oilstone, Combination, Silicon carbide	2
3085	Pliers, Combination (6″)	12
3095	Pliers, Duckbill	6
3100	Pliers, Diagonal cutting	12
3135	Pliers, Needle nose	12

0450	Brake, Box and pan	1
0780	Chisel, Cold (set)	1
0970	Coil Winder	1
1070	Countersink, High speed	1
1090	Crimping Tool	2
1250	Die, Letter (set)	1
1255	Die, Number (set)	1
1305	Divider, Wing	1
1330	Drill, Electric, Portable (1/4″)	1
1350	Drill, Hand (1/4″)	1
1360	Drill Stand, Fractional	1
1365	Drill, Twist (letter set)	1
1370	Drill, Twist (number set)	1
1375	Drill, Twist, Straight shank (fractional set)	1
1495	Extension Cord	2
1540	Files (see specifications for listing)	
1550	File Card and Brush	6
1565	File, Jeweler's (set)	1
1570	File, Needle (set)	1
1710	Gauge, Auger bit	1
1800	Gauge, Screw pitch	1
1830	Gauge, Thickness ("feeler")	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1900	Goggles (spectacles), Clear observation	12
1985	Grinder, Pedestal	1
2030	Hammer, Ball peen (12 oz.)	6
2035	Hammer, Ball peen (16 oz.)	6
2085	Hammer, Claw (16 oz.)	6
2320	Knife, Electrician's	6
2490	Light, Extension	2
2530	Magnet, Bar	24
2830	Nibbler, Hand operated	2
2865	Oiler, Bench	1
2890	Oilstone, Combination, India	2
2895	Oilstone, Combination, Silicon carbide	2
3085	Pliers, Combination (6″)	12
3095	Pliers, Duckbill	6
3100	Pliers, Diagonal cutting	12
3135	Pliers, Needle nose	12

3150	Pliers, Side-cutting (6″)	12
3170	Pliers, Vise-grip wrench	3
3250	Press, Drill	1
3455	Punch, Center (set)	2
3460	Punch, Chassis (round set)	1
3465	Punch, Chassis (square set)	1
3500	Punch, Pin (set)	2
3590	Reamer, Electrician's hand	1
3750	Rule, Steel (12″)	6
3845	Saw, Coping	1
3850	Saw, Hack (hand)	4
3865	Saw, Hand, Crosscut	1
3965	Scissors	1
4030	Screwdriver, Insulated (set)	12
4050	Screwdriver, Phillips (set)	4
4055	Screwdriver, Retaining type	2
4150	Shear, Squaring foot	
4165	Shield, Face	6
4250	Snip, Aviation (left)	2
4255	Snip, Aviation (right)	2
4275	Snips, Tinner's, Straight (#8)	3
4295	Soldering Copper, Electric (60W)	6
4310	Soldering Copper, Electric pencil	6
4335	Soldering Gun, Electric	4
4480	Square, Combination	3
4490	Square, Steel framing	1
4760	Tap and Die, NC (U.S. standard) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1
4770	Tap and Die, Pipe (set)	1
5195	Welder, Spot	1
5255	Wrench, Adjustable end (6″)	4
5280	Wrench, Allen key (hex) (set)	2
5330	Wrench, Nutdriver (set)	2
5335	Wrench, Open end (set)	1
5360	Wrench, Socket (⅜″ drive) (set)	1

3150	Pliers, Side-cutting (6′)	12
3170	Pliers, Vise-grip wrenc	3
3250	Press, Drill	1
3455	Punch, Center (set)	2
3460	Punch, Chassis (round set)	1
3465	Punch, Chassis (squar set)	1
3500	Punch, Pin (set)	2
3590	Reamer, Electrician's hand	1
3750	Rule, Steel (12″)	6
3845	Saw, Coping	1
3850	Saw, Hack (hand)	4
3865	Saw, Hand, Crosscut	1
3965	Scissors	1
4030	Screwdriver, Insulate (set)	12
4050	Screwdriver, Phillips (set)	4
4055	Screwdriver, Retainin type	2
4150	Shear, Squaring foot	1
4165	Shield, Face	6
4250	Snip, Aviation (left)	2
4255	Snip, Aviation (right)	2
4275	Snips, Tinner's, Straight (#8)	3
4310	Soldering Copper, Electric pencil	6
4335	Soldering Gun, Electri	4
4480	Square, Combination	3
4490	Square, Steel framing	1
4495	Square, Try (6″)	6
4760	Tap and Die, NC (U.S. standard) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1
4770	Tap and Die, Pipe (set)	1
5195	Welder, Spot	1
5255	Wrench, Adjustable end (6″)	4
5280	Wrench, Allen key (hex) (set)	2
5330	Wrench, Nutdriver (set)	2
5335	Wrench, Open end (set)	1
5360	Wrench, Socket (⅜′ drive) (set)	1

II. Power Supply

Code	Item	Number
3320	Power Supply, Variable output	6

III. Test Equipment

Code	Item	Number
0730	Capacitor Substitution Box	1
2910	Oscilloscope	6
4185	Signal Tracer	2
4850	Tester, Transistor	1
4855	Tester, Tube	1

IV. Metering Equipment

Code	Item	Number
2575	Meter, Ammeter (AC)	1
2585	Meter, Battery tester	1

V. General Furnishings

Code	Item	Number
0190	Bench, Island-double-face	6
0405	Bookcase	1
0465	Broom, Push	3
0540	Cabinet, Filing	1
0565	Cabinet, Instrument storage	2
0590	Cabinet, Parts storage	1
0625	Cabinet, Tool storage	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3

II. Power Supply

Code	Item	Number
3225	Power Supply, Variable output, Filtered	8
4180	Signal Generator	2

III. Test Equipment

Code	Item	Number
0730	Capacitor Substitution Box	1
2910	Oscilloscope	6
4185	Signal Tracer	2
4850	Tester, Transistor	1
4855	Tester, Tube	1

IV. Metering Equipment

Code	Item	Number
2575	Meter, Ammeter (AC)	1
2585	Meter, Battery tester	1
2590	Meter, Galvanometer	1
2595	Meter, Grip dip	1
2610	Meter, Volt-ohm (multi-range)	6
2615	Meter, VTVM	6

V. General Furnishings

Code	Item	Number
0170	Bench, Electric demonstration	1
0190	Bench, Island-double-face	6
0405	Bookcase	1
0465	Broom, Push	3
0540	Cabinet, Filing	1
0565	Cabinet, Instrument storage	2
0590	Cabinet, Parts storage	1
0625	Cabinet, Tool storage	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3

1600	First Aid Kit	1
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
4010	Screen, Projection	1
4690	Table, Overhead projector	1

1600	First Aid Kit	1
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
4010	Screen, Projection	1
4690	Table, Overhead projector	1

ELEMENTARY

Note:

Quantities of tools presented in this list are arranged into columns according to the requirements of different types of elementary school programs:

Column I—Schools with central activities room for approximately 24 students.
Column II—Activity room adjacent to regular classroom for 4-8 students.
Column III—Work bench(es) and/or tool cabinet in regular classroom—4-8 students.
Column IV—Portable tool kit or cabinet—4-24 students.

Grade level designations in the list are as follows:

A—recommended for K and grades - 3
B—recommended for grades 4 - 6
C—recommended for grades 7 - 8 (when included as a part of the elementary school).

Code	Item	Column:	Quantities Recommended I	II	III	IV	Grade Level
I.	Woodworking Tools						
0090	Awl, Scratch		1	1	1	1	ABC
0185	Bench Hook		6	6	6	6	ABC
0220	Bench, Saw		1	1	1	1	ABC
0285	Bit, Auger (set)		1	1	1	1	ABC
0305	Bit, Expansive		1	1	1	1	BC
0430	Brace, Ratchet		2	2	2	2	ABC
0440	Brad Driver		1	1	1	1	ABC
0520	Burnisher		1	1	1	1	BC
0765	Chisel, Butt (set)		1	1	1	1	C
0775	Chisel, Carving (set)		1	1	1	1	ABC
0780	Chisel, Cold (set)		1	1	1	1	BC
0850	Clamp, Bar (36″)		2	2	2	2	BC
0865	Clamp, "C" (2″)		12	6	6	12	ABC
0870	Clamp, "C" (3″)		24	12	12	24	BC
0940	Clamp, Spring (#2)		12	12	12	12	ABC

1350	Drill, Hand (¼")	3	2	2	2	ABC
1540	Files (see specifications for listing)					
1550	File Card and Brush	4	2	2	2	ABC
1710	Gauge, Auger bit	1	1	1	1	ABC
2070	Hammer, Claw (7 oz.)	6	4	4	6	ABC
2075	Hammer, Claw (10 oz.)	6	4	4	6	ABC
2080	Hammer, Claw (13 oz.)	4	1	1	4	ABC
2260	Jointer (6")	1				BC
2360	Knife, Putty	1	1	1	1	ABC
2370	Knife, Sloyd	2	2	2	2	ABC
2690	Mitre Box	1			1	ABC
2800	Nail Set (1/16" tip)	1	1	1	1	ABC
2805	Nail Set (3/32" tip)	1	1	1	1	ABC
3000	Plane, Block	2	2	2	2	A
		6	4	4	6	BC
3040	Plane, Smoothing	1	1	1	1	C
3795	Sander, Finishing	1	1	1	1	BC
3820	Saw, Back	6	4	4	6	ABC
3840	Saw, Compass (set)	1	1	1	1	ABC
3845	Saw, Coping	12	8	8	12	ABC
3865	Saw, Hand, Crosscut	6	2	2	6	ABC
3910	Sawhorse (18")	8	4	4	8	ABC
3915	Sawjack	24	6	6	24	ABC
3980	Scraper, Cabinet	4			4	BC
3995	Scraper, Hand	2	2	2	2	ABC
5165	Vise, Woodworker's	2	2	2	2	ABC

II. Metalworking Tools

1305	Divider, Wing	1	1	1	1	ABC
1320	Dresser, Grinding wheel	1	1	1	1	ABC
1540	Files (see specifications for listing)					
1550	File Card and Brush	24	24	24	24	ABC
1570	File, Needle (set)	1	1	1	1	ABC
1855	Gauge, Wire and sheet metal (American)	1	1	1	1	ABC
1860	Gauge, Wire and sheet metal (U.S.S.)	1	1	1	1	ABC
2015	Hammer, Ball peen (2 oz.)	2	2	2	2	ABC
2020	Hammer, Ball peen (4 oz.)	4	4	4	4	ABC
2065	Hammer, Chipping	1	1	1	1	ABC
2290	Kiln, Enameling	1	1	1	1	BC
3455	Punch, Center (set)	1	1	1	1	BC
3480	Punch, Hand (set)	1	1	1	1	BC
3670	Riveter, "Pop" (set)	1	1	1	1	BC
3850	Saw, Hack (hand)	1	1	1	1	BC
4160	Sheet Metal Tool	1	1	1	1	BC
4260	Snip, Aviation (combination and straight)	1	1	1	1	ABC

4275	Snips, Tinner's, Straight (#8)	1	1	1	1	ABC
4295	Soldering Copper, Electric (60W)	1	1	1	1	BC
III.	Plastics Tools					
2190	Hot Plate, Electric	1			1	ABC
2915	Oven	1				ABC
4655	Strip Heater	1	1	1	1	ABC
4880	Thermoforming Press, Vacuum (small)	1				ABC
IV.	Leatherworking Tools					
0270	Beveler	5	5	5	5	ABC
0380	Board, Cutting	24	6	6	24	ABC
0810	Chisel, Thonging (4-prong)	1	1	1	1	ABC
0815	Chisel, Thonging (3-prong)	2	2	2	2	ABC
0820	Chisel, Thonging (single-prong) (1/8")	2	2	2	2	ABC
0825	Chisel, Thonging (single-prong) (3/32")	1	1	1	1	ABC
1525	Eyelet Setter	1	1	1	1	ABC
1740	Gauge, Draw	1			1	ABC
2315	Knife, Carving (set)	2	2	2	2	BC
2330	Knife, Head	1	1	1	1	ABC
2365	Knife, Skiving	2	2	2	2	ABC
2380	Knife, Swivel cutter	4	4	4	4	BC
2540	Mallet, Rawhide	12	4	4	12	ABC
3490	Punch, Leather, Revolving	1	1	1	1	BC
4125	Sewing Machine	1				BC
4215	Skife	2			2	ABC
4240	Snap Fastener (set)	2	1	1	2	ABC
4575	Stamp, Leather (see specifications for listing)					ABC
5125	Veiner, Leather stamp	3	3	3	3	ABC
V.	Graphic Arts Tools					
0460	Brayer, Block printing	4	4	4	4	BC
1160	Cutter, Linoleum (set) (push-type)	6	4	4	6	BC
1165	Cutter, Linoleum (set) (pull-type)	6	4	4	6	BC
3240	Press, Block printing	1	1	1	1	BC
4220	Slab, Inking	1	1	1	1	ABC
VI.	Ceramics Tools					
1880	Gloves, Asbestos (pair)	1				BC
2285	Kiln, Electric	1				ABC
2705	Modeling Tool (set)	3	3	3	3	ABC

3515	Pyrometer, Portable	1				ABC
4415	Sponge, Elephant ear shape	1	1	1	1	ABC
4605	Stilts, Kiln	144				ABC
5030	Triangle, Kiln	144				ABC

VII. Weaving

2500	Loom, Table	3			3	BC
2815	Needle, Knitting (pair)	12	6	6	12	BC
2825	Needle, Raffia (card)	24	8	8	24	ABC

VIII. General Furnishings

0175	Bench, Elementary, Work	6	1-6	2		ABC
0255	Bench, Woodworking (4 place)	6	2	2		ABC
0370	Blow Torch	1			1	BC
0405	Bookcase	1	1	1		ABC
0465	Broom, Push	3	3	3		ABC
0470	Brush, Bench	12	4	4	6	ABC
0510	Buffer, Pedestal	4				BC
0540	Cabinet, Filing	1	1	1		ABC
0620	Cabinet, Storage		1	1		ABC
0745	Cart, Stock	1			1	ABC
0750	Cart, Tool				1-2	ABC
0755	Chair, Teacher's	1	1	1		ABC
0995	Compass, Pencil	6	6	6	6	ABC
1150	Cutter, Glass	1	1	1	1	ABC
1235	Desk, Teacher's	1	1	1		ABC
1330	Drill, Electric, Portable (¼″)	1	1	1	1	ABC
1360	Drill Stand, Fractional	1	1	1	1	ABC
1375	Drill, Twist, Straight shank (fractional set)	1	1	1		ABC
1592	Fire Blanket	1	1	1	1	ABC
1593	Fire Extinguisher	2	2	2		ABC
1600	First Aid Kit	1	1	1	1	ABC
1620	Flocking Gun	1				BC
1890	Gloves, Rubber (pair)	1	1	1	1	ABC
1900	Goggles (spectacles), Clear observation	10	4	6	6	ABC
1960	Grinder-Buffer, Bench, Combination	1				BC
2560	Marker, Felt-tip, Color (set)	6	2	2	6	ABC
2865	Oiler, Bench	6	2	2	1	BC
2890	Oilstone, Combination, India	4	2	2	2	ABC
2932	Pan, Dust	1	1	1	1	ABC
2980	Pencil Sharpener, Standard	1	1	1		ABC
2985	Pencil, Woodburning	3	2	2	3	ABC
3085	Pliers, Combination (6″)	2	1	1	2	ABC
3100	Pliers, Diagonal-cutting	2	2	2	2	ABC
3105	Pliers, Electrician's	1	1	1	1	A
3135	Pliers, Needle nose	1	1	1	1	ABC
3170	Pliers, Vise-grip wrench	1	1	1	1	BC

3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1	1	1		ABC
3345	Projector, Motion picture, Sound	1	1	1		ABC
3350	Projector, Overhead	1	1	1		ABC
3365	Protractor, Semi-circular	2	1	1	2	ABC
3700	Rule, Flexible, Steel tape (8′)	1	1	1	1	ABC
3750	Rule, Steel (12″)	2	2	2	2	ABC
3775	Sander, Band	1				BC
3830	Saw, Band, Wood-cutting	1				C
3835	Saw, Circular, Power	1	1			ABC
3885	Saw, Jig (scroll)	1				ABC
3900	Saw, Sabre (bayonet)	1			1	BC
3965	Scissors	2	2	2	2	ABC
4010	Screen, Projection	1	1	1		ABC
4065	Screwdriver, Standard bit (changeable blades) (set)	1	1	1	1	ABC
4070	Screwdriver, Standard bit (round blade) (set)	1	1	1	1	ABC
4165	Shield, Face	3	1	1	2	ABC
4335	Soldering Gun, Electric	1	1	1	1	C
4430	Spoons, Measuring (set)	1	1	1	1	ABC
4490	Square, Steel framing	3	1	1	2	ABC
4495	Square, Try (6″)	6	2	2	6	ABC
4500	Square, Try (8″)	4	2	2	4	ABC
4690	Table, Overhead projector	1	1	1	1	ABC
4775	T Bevel	1	1	1	1	C
5075	Tumbler, Lapidary	1	1	1		BC
5260	Wrench, Adjustable end (8″)	1	1	1	1	ABC

GENERAL SHOP

Note:

Because general shop industrial arts experiences are considered exploratory and basic in nature, no equipment has been listed for advanced-level work.

General industrial arts provided in a general shop is intended to offer a wide variety of experiences. To that end, equipment has been listed for ten areas (ceramics, enameling, leatherwork, plastics, drafting, electricity, metalworking, power mechanics, woodworking, and graphic arts). Certain items of equipment appear to be basic to all general shop facilities and are listed under "I. General." Items listed in "I. General" are not repeated in the area sections which follow.

Quantities recommended for sections II through XIX are in terms of "per six students." If the facility being established is to offer a wide variety of experiences, the students would be distributed in small numbers per area and the quantities of tools can be scaled down. Conversely, if all of the students are concentrated in only two or three areas, the quantities listed should be slightly increased.

Quantities recommended for section I are in terms of the number needed for the entire program. Certain minor adjustments up or down may have to be made due to the emphasis placed on individual areas in the local facility.

I. General

Code	Item	Number
0085	Awl, Brad	2
0090	Awl, Scratch	3
0245	Bench, Wall type	2
0255	Bench, Woodworking (4 place)	5
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	12
0500	Brush, Wire	6
0510	Buffer, Pedestal	1
0540	Cabinet, Filing	2
0542	Cabinet, Finishing (storage)	1
0585	Cabinet, Paper and drawing storage	1
0625	Cabinet, Tool Storage	2
0645	Caliper, Inside (6″)	2
0650	Caliper, Inside (8″)	2
0655	Caliper, Outside (6″)	2
0660	Caliper, Outside (8″)	2
0710	Can, Oily waste	2
0720	Can, Safety (1 qt.)	4
0725	Can, Safety (1 gal.)	2
0755	Chair, Teacher's	1
0765	Chisel, Butt (set)	2
0940	Clamp, Spring (#2)	12
0995	Compass, Pencil	6
1025	Compressor, Air	1
1070	Countersink, High speed	2
1150	Cutter, Glass	1
1235	Desk, Teacher's	1
1250	Die, Letter (set)	1
1255	Die, Number (set)	1
1295	Divider, Spring (6″)	1
1300	Divider, Spring (8″)	1
1320	Dresser, Abrasive wheel	1
1330	Drill, Electric, Portable (¼″)	1
1495	Extension Cord	2
1540	File (see specifications for listing)	
1545	File, Auger bit	1
1550	File Card and Brush	6
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
1855	Gauge, Wire and sheet metal (American)	2
1860	Gauge, Wire and sheet metal (U.S.S.)	2
1900	Goggles (spectacles), Clear observation	12
1980	Grinder, Oil tool	1
2130	Hammer, Soft face (4 oz.)	2
2360	Knife, Putty	3
2370	Knife, Sloyd	6
2535	Mallet, Hardwood	2
2540	Mallet, Rawhide (10 oz.)	2
2865	Oiler, Bench	3
2890	Oilstone, Combination, India	1
2895	Oilstone, Combination, Silicon carbide	1
2932	Pan, Dust	2
2980	Pencil Sharpener, Standard	1
3085	Pliers, Combination (6″)	2
3090	Pliers, Combination (8″)	2
3100	Pliers, Diagonal-cutting	2
3110	Pliers, End-cutting	2
3250	Press, Drill (15″)	1
3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3455	Punch, Center (set)	2
3500	Punch, Pin (set)	1
3695	Rule, Flexible, Steel tape (6′)	3
3750	Rule, Steel (12″)	6
3760	Rule, Steel (36″)	3
378[illegible]	Sander, Belt, Portable, Electric	1
3785	Sander, Combination belt and disc	1
3795	Sander, Finishing, Portable, Electric	1
3850	Saw, Hack (hand)	3
3855	Saw, Hack, Close quarter	1
3875	Saw, Jeweler's (4″)	1
3965	Scissors	1

4010	Screen, Projection	1
4020	Screwdriver, Cabinet tip	2
4035	Screwdriver, Offset, Phillips (set)	1
4045	Screwdriver, Offset, Straight slot (set)	1
4050	Screwdriver, Phillips (set)	1
4070	Screwdriver, Standard bit (round blade) (set)	2
4100	Screwdriver, Standard bit ("stubby")	2
4165	Shield, Face	6
4275	Snips, Tinner's, Straight (#8)	2
4295	Soldering Copper, Electric (60W)	2
4455	Spray Gun Outfit	1
4480	Square, Combination	2
4485	Square, Combination set (with protractor and center head)	1
4490	Square, Steel framing	2
4595	Stapler, Hand	1
4615	Stool, Student's adjustable	6
4665	Table, Blueprint	1
4670	Table, Drafting	6
4690	Table, Overhead projector	1
4760	Tap and Die, NC (U.S. standard) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1
4965	Trammel points	1
5135	Vise, Bench, Drill	1
5140	Vise, Machinist's bench	4
5160	Vise, Swivel	1
5255	Wrench, Adjustable end (6″)	2
5260	Wrench, Adjustable end (8″)	1
5265	Wrench, Adjustable end (10″)	1
5270	Wrench, Adjustable end (12″)	1
5280	Wrench, Allen key (hex) (set)	2

II. Ceramics (crafts)

Code	Item	Number
0425	Box, Clay storage, Portable	1
0525	Cabinet, Damp-proof	1
0530	Cabinet, Drying	1
2285	Kiln, Electric	1
2295	Kiln, Front loading	1
2705	Modeling Tool (set)	2
2765	Molds, Ceramics (assorted)	6
2840	Nipper, Tile	2
3200	Potter's Wheel, Electric	1
4750	Tank, Storage, Slip	1
5040	Trivets	6
5180	Wedging Table	1

III. Crafts—Enameling

Code	Item	Number
0065	Atomizer	1
1640	Fork, Enameling	2
2290	Kiln, Enameling	1
3535	Rack, Enameling	2
4175	Sifter	1
4950	Torch, Gas	1
5080	Tweezers, Bevel point	2

IV. Crafts—Leather

Code	Item	Number
0095	Awl, Stitching, Automatic	1
0830	Chisel, Thonging (set)	2
1080	Creaser, Adjustable edge	1
1525	Eyelet Setter	1
1535	Fid	1
2340	Knife, Leather	2
2365	Knife, Skiving	2
2380	Knife, Swivel cutter	6
2445	Leather Modeling Tool (set)	2
2820	Needle, Lacing	6
2985	Pencil, Woodburning	1
3490	Punch, Leather, Revolving	2
4140	Shear, Leather	2
4240	Snap Fastener (set)	2

4340	Spacer, Leather marker	2
4575	Stamp, Leather	2

V. Crafts—Plastics

Code	Item	Number
2750	Molding Press, Injection (small)	1
2915	Oven	1
4395	Spatula	1
4655	Strip heater	1
4875	Thermoforming Press, Vacuum (medium)	1

VI. Drafting Tools

Code	Item	Number
0385	Board, Drafting	6
0480	Brush, Duster, Draftsman's	6
0975	Compass and Divider (set)	6
0985	Compass, Chalkboard	1
1130	Curve, Irregular (set)	2
1200	Cutter, Paper	1
1480	Eraser Shields	6
2460	Lettering Set	1
2505	Machine, Drafting (18″)	2
2520	Machine, Reproduction	1
2955	Pen Set	1
2965	Pencil Pointer, Lead pencil	1
3365	Protractor, Semi-circular	2
3495	Punch, Paper	1
3925	Scale, Architect's	6
3935	Scale, Decimal (civil engineer's)	1
4590	Staple Remover	1
4990	Triangle, 30°-60° (8″)	6
5005	Triangle, 45° (8″)	6
5020	Triangle, Chalkboard	1
5070	T Square	6

VII. Electricity—Hand Tools

Code	Item	Number
2575	Meter, Ammeter (AC)	1
2580	Meter, Ammeter (DC)	1
2585	Meter, Battery tester	1
2610	Meter, Volt-ohm (multi-range)	6
2615	Meter, VTVM	1
2910	Oscilloscope	1
3105	Pliers, Electrician's	2
3130	Pliers, Long nose	2
3215	Power Supply, Low voltage	1
3220	Power Supply, Variable output	1
3225	Power Supply, Variable output, Filtered	1
3460	Punch, Chassis (round set)	1
3465	Punch, Chassis (square set)	1
4030	Screwdriver, Insulated (set)	2
4180	Signal Generator	1
4335	Soldering Gun, Electric	2
4840	Tester, Neon lamp type	1
4855	Tester, Tube	1
4970	Transformer, Bell	3
5250	Wire Cutter and Stripper	3
5330	Wrench, Nutdriver (set)	6

VIII. Electricity—General Furnishings

Code	Item	Number
0165	Bench, Electric (with test panel)	1
1410	Electricity Demonstration Panel, Teacher's	1
1415	Electricity Training Panel, Student's	3
1420	Electronics Demonstration Panel, Teacher's	1
1425	Electronics Training Panel, Student's	3

IX. General Metals—Hand Tools

Code	Item	Number
0045	Anvil	1
0050	Apron, Foundry	2
0055	Apron, Welding	2

0145	Bellows, Molder's	1
0265	Bending Jig, Adjustable	1
0515	Bulb, Sponge	1
0770	Chisel, Cape	2
0780	Chisel, Cold (set)	2
0870	Clamp, "C" (3″)	3
0875	Clamp, "C" (4″)	3
0880	Clamp, "C" (6″)	3
0885	Clamp, "C" (8″)	6
1140	Cutter, Bolt	1
1325	Drill, Blacksmith (set)	1
1500	Extractor, Screw (set)	1
1615	Flask, Foundry (small)	3
1725	Gauge, Center	1
1735	Gauge, Depth rule	1
1755	Gauge, Drill point	1
1880	Gloves, Asbestos (pair)	1
1885	Gloves, Leather (pair)	1
1905	Goggles, Gas welding	2
1910	Goggles, Melter's	2
2000	Groover, Hand (set)	1
2020	Hammer, Ball peen (4 oz.)	3
2030	Hammer, Ball peen (12 oz.)	3
2035	Hammer, Ball peen (16 oz.)	3
2065	Hammer, Chipping	1
2090	Hammer, Engineer's (40 oz.)	1
2100	Hammer, Forming	1
2110	Hammer, Raising	1
2115	Hammer, Riveting, Machinist's	1
2120	Hammer, Setting	2
2135	Hammer, Soft face	2
2140	Helmet, Welding (hand type)	4
2145	Helmet, Welding (head type)	2
2400	Ladle, Bottom pour	1
2450	Leggings, Molder's	2
2625	Micrometer, Outside (1″)	1
2630	Micrometer, Outside (2″)	1
2635	Micrometer, Outside (3″)	1
2710	Mold, Ingot	2
3125	Pliers, Lineman's	1
3135	Pliers, Needle nose	2
3145	Pliers, Round nose	2
3500	Punch, Pin (set)	1
3505	Punch, Tinner's (set)	1
3575	Rammer, Hardwood	1
3660	Riddle, Foundry	1
3665	Rivet Set	1
4105	Scriber	2
4110	Seamer, Handy	1
4170	Shovel, Square point	1
4250	Snip, Aviation (left)	2
4255	Snip, Aviation (right)	2
4260	Snip, Aviation (combination and straight)	2
4265	Snips, Hawksbill	1
4270	Snips, Tin, Curved blade	1
4390	Sparklighter	6
4410	Sponge, Bulb	1
4425	Spoon and Gate Cutter	2
4475	Sprinkling Can	1
4510	Stake, Beakhorn	1
4520	Stake, Blowhorn	1
4530	Stake, Candle mold	1
4540	Stake, Coppersmith square	1
4555	Stake, Hatchet	1
4560	Stake, Hollow mandrel	1
4570	Stake, Round head	1
4915	Tongs, Blacksmith, Curved lip	1
4920	Tongs, Crucible	1
4925	Tongs, Pick-up	1
4950	Torch, Gas	1
4955	Torch, Propane (kit)	1
5045	Trowel, Foundry	1
5050	Trowel, Square, Molder's	1
5055	Trowel, Taper (heart) and leaf, Molder's	1
5065	Truck, Welding cylinder	1
5155	Vise, Sheet metal	1
5185	Welder, Arc	1
5200	Welder, Spot (portable)	1
5220	Welding Outfit, Oxyacetylene	1
5225	Welding Screen, Portable	1

X. Metals—Machines

Code	Item	Number
0115	Bar Folder	1
0260	Bender, Universal	1

0450	Brake, Box and pan	1
0510	Buffer, Pedestal	1
1635	Forge, Gas	1
1650	Forming Roll, Slip	1
1675	Furnace, Bench	1
1680	Furnace, Crucible	1
1985	Grinder, Pedestal	1
2415	Lathe, Metalworking (10″)	1
2680	Milling Machine, Vertical	1
3235	Press, Arbor	1
3680	Rotary Machine, Combination	1
3860	Saw, Hack, Power	1
4130	Shaper, Metal	1
4150	Shear, Squaring foot	1

XI. Metals—General Furnishings

Code	Item	Number
0150	Bench, Arc welding	1
0180	Bench, Welding (gas)	1
0205	Bench, Metalworking (2 place)	4
0212	Bench, Molding	1
0225	Bench, Sheet metal (with stake plates)	1
0230	Bench, Soldering	1
0245	Bench, Wall type	2
1680	Furnace, Crucible	1

XII. Power Mechanics—Hand Tools

Code	Item	Number
0005	Adaptor, Socket	2
0010	Adaptor, Socket	2
1030	Compressor, Piston ring	1
1035	Compressor, Valve spring	1
1220	Cutter, Tubing	1
1605	Flaring Tool (set)	1
1625	Flywheel Holder	1
1730	Gauge, Cylinder pressure	1
1760	Gauge, Ignition (set)	1
1810	Gauge, Spark plug	1
1830	Gauge, Thickness ("feeler")	2
1865	Gear Puller	1
2035	Hammer, Ball peen (16 oz.)	3
3070	Pliers, Bent nose	2
3115	Pliers, Hose clamp, Radiator and gas line	1
3135	Pliers, Needle nose	2
3165	Pliers, Tru-arc (#2)	1
3170	Pliers, Vise-grip wrench	2
4285	Socket, Deep spark plug (13/16″)	1
4290	Socket, Deep spark plug (1⅛″)	1
5280	Wrench, Allen key (hex) (set)	2
5290	Wrench, Combination box and open end (set)	1
5320	Wrench, Ignition (set)	1
5335	Wrench, Open end (set)	1
5340	Wrench, Pipe (10″)	1
5350	Wrench, Pipe (18″)	1
5360	Wrench, Socket (⅜″ drive) (set)	1
5365	Wrench, Socket (½″ drive) (set)	1
5420	Wrench, Socket, Reversible ratchet handle (⅜″ drive)	1
5425	Wrench, Socket, Reversible ratchet handle (½″ drive)	1
5465	Wrench, Torque (⅜″ drive)	1

XIII. Power Mechanics—Machines

Code	Item	Number
1455	Engine, Small (2-cycle)	1
1460	Engine, Small (4-cycle)	1
1995	Grinder, Valve (set)	1
3615	Refacer, Valve (set)	1

XIV. Power Mechanics—General Furnishings

Code	Item	Number
0570	Cabinet, Mechanics, Roller	1

XV. Woodworking—Hand Tools

Code	Item	Number
0285	Bit, Auger (set)	1
0300	Bit, Electrician's	1
0305	Bit, Expansive	1
0320	Bit, Forstner (machine set)	1
0330	Bit, Plug cutter (set)	1
0335	Bit, Screwdriver (set)	1
0430	Brace, Ratchet	2
0520	Burnisher	1
0775	Chisel, Carving (set)	2
0790	Chisel, Gouge, Inside (set)	1
0805	Chisel, Socket firmer (set)	1
0835	Chisel, Wood turning (set)	2
0850	Clamp, Bar (36″)	4
0855	Clamp, Bar (48″)	4
0860	Clamp, Bar (60″)	2
0910	Clamp, Handscrew (#3/o)	2
0915	Clamp, Handscrew (#0)	2
0920	Clamp, Handscrew (#1)	2
0925	Clamp, Handscrew (#2)	2
0930	Clamp, Handscrew (#3)	2
1065	Countersink Bit (for brace) (set)	1
1350	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1
1375	Drill, Twist, Straight shank (fractional set)	1
1710	Gauge, Auger bit	1
1775	Gauge, Marking	3
2070	Hammer, Claw (7 oz.)	2
2080	Hammer, Claw (13 oz.)	3
2085	Hammer, Claw (16 oz.)	3
2245	Jig, Dowelling	1
2465	Level	1
2690	Mitre Box	1
2800	Nail Set (1/16″ tip)	3
2835	Nipper, End cutting	1
2885	Oilstone, Carving tool slips (set)	1
2900	Oilstone, Gouge slip	1
2905	Oilstone, Slip	1
3000	Plane, Block	2
3010	Plane, Jack	2
3015	Plane, Jointer	1
3020	Plane, Junior jack	4
3040	Plane, Smoothing	2
3735	Rule, Maple (24″)	6
3820	Saw, Back	2
3840	Saw, Compass (set)	2
3845	Saw, Coping	3
3865	Saw, Hand, Crosscut	1
3870	Saw, Hand, Rip	1
3980	Scraper, Cabinet	2
3995	Scraper, Hand	2
4405	Spokeshave, Straight	1
4500	Square, Try (8″)	6
4620	Stop, Bench	6
5070	T Square	2

XVI. Woodworking—Machines

Code	Item	Number
2260	Jointer (6″)	1
2435	Lathe, Wood turning	2
3675	Router, Portable, Electric	1
3830	Saw, Band, Wood-cutting	1
3835	Saw, Circular, Power	1
3885	Saw, Jig (scroll)	1
3895	Saw, Radial-arm, Power	1
3900	Saw, Sabre (bayonet)	1
4660	Surfacer (single surface planer)	1

XVII. Graphic Arts—Hand Tools

Code	Item	Number
0400	Bone Folder	3
0410	Borders, Decorations, Miscellaneous	1
0720	Can, Safety (1 quart)	2
0760	Chases, Platen	6
1000	Composing Stick (6″)	6
1005	Composing Stick (10″)	3
1155	Cutter, Lead and slug	1
1160	Cutter, Linoleum (set)	2
1200	Cutter, Paper	1
1655	Fountain Pen (technical set)	1

1690	Furniture, Wood, Fonts	1
1765	Gauge, Line (12″)	3
1790	Gauge, Pin (sets)	6
2335	Knife, Ink	2
2375	Knife, Stencil	2
2440	Leads (2 point) (25 lb. pkg.)	1
2460	Lettering Set	1
2860	Numbering Machine, Press	1
2955	Pen Set	1
2965	Pencil Pointer, Lead pencil	1
3045	Planer, Type	2
3495	Punch, Paper	1
3525	Quoin, Hispeed	12
3530	Quoin Key, Hispeed	2
3620	Reglets, Wood Font	1
3685	Rule, Brass	1
3925	Scale, Architect's	6
4195	Silk Screen Unit	1
4235	Slugs (6 point) (25 lb. pkg.)	1
4345	Spaces, Assorted fonts (6 point)	1
4350	Spaces, Assorted fonts (8 point)	1
4355	Spaces, Assorted fonts (10 point)	1
4360	Spaces, Assorted fonts (12 point)	1
4365	Spaces, Assorted fonts (14 point)	1
4370	Spaces, Assorted fonts (18 point)	1
4375	Spaces, Assorted fonts (24 point)	1
4380	Spaces, Assorted fonts (30 point)	1
4385	Spaces, Assorted fonts (36 point)	1
4590	Staple Remover	1
4995	Triangle, 30°-60° (8″)	2
5005	Triangle, 45° (8″)	2
5070	T Square	2
5085	Tweezers, Type	2
5090	Type (see specifications for listing)	

XVIII. Graphic Arts—Machines

Code	Item	Number
3045	Planer, Type	1
3275	Press, Padding	1
3280	Press, Platen	1
3290	Press, Platen, Hand lever	1
3295	Press, Proof	1
3305	Press, Rubber stamp	1
3320	Printmaker, Graphic arts	1
4600	Stapler, Saddle	1

XIX. Graphic Arts—General Furnishings

Code	Item	Number
0600	Cabinet, Proof press	1
0630	Cabinet, Type, Double tier	1
2205	Imposing Stone Table	1

GRAPHIC ARTS

Introductory

I. Basic Equipment

Code	Item	Number
0280	Binding Unit, Plastics	1
0360	Block, Proofing	2
0390	Boards, Pressing	4
0675	Camera, Range finder (35mm)	1

Advanced

I. Basic Equipment

Code	Item	Number
0015	Airbrush	1
0280	Binding Unit, Plastics	1
0360	Block, Proofing	2
0390	Boards, Pressing	4
0670	Camera, Copying	1
0675	Camera, Range finder (35mm)	1

0680	Camera (35mm) Single lens reflex	1	**0680**	Camera (35mm) Single lens reflex	1
0685	Camera, Reflex, Twin lens	2	**0685**	Camera, Reflex, Twin lens	2
1155	Cutter, Lead and slug	1	**1155**	Cutter, Lead and slug	1
1200	Cutter, Paper	1	**1200**	Cutter, Paper	1
1210	Cutter, Round corner	1	**1210**	Cutter, Round corner	1
			1230	Densitometer, Photo	1
1330	Drill, Electric, Portable (1/4″)	1	**1330**	Drill, Electric, Portable (1/4″)	1
1390	Dryer, Print	1	**1390**	Dryer, Print	1
			1395	Duplicating Machine, Spirit	1
			1400	Duplicating Machine, Stencil	1
1475	Enlarger, Photographic	1	**1475**	Enlarger, Photographic	2
			1490	Exposure Frame	1
1530	Ferrotype Plate	4	**1530**	Ferrotype Plate	4
			1580	Filter, Photo (set)	1
			1630	Folding Machine	1
1895	Glue Pot	1	**1895**	Glue Pot	1
2190	Hot Plate, Electric	1	**2190**	Hot Plate, Electric	1
2205	Imposing Stone Table	1	**2205**	Imposing Stone Table	1
			2255	Jogger, Paper	1
2600	Meter, Light	1	**2600**	Meter, Light	1
2685	Mitering Machine	1	**2685**	Mitering Machine	1
2850	Numbering Machine, Cleaner box	1	**2850**	Numbering Machine, Cleaner box	1
2855	Numbering Machine, Hand	1	**2855**	Numbering Machine, Hand	1
2860	Numbering Machine, Press	2	**2860**	Numbering Machine, Press	2
2930	Pad Counter	1	**2930**	Pad Counter	1
			2990	Perforator	1
3045	Planer, Type	4	**3045**	Planer, Type	4
3062	Plate-maker	1	**3062**	Plate-maker	1
3245	Press, Copying	1	**3245**	Press, Copying	1
3260	Press, Hot stamping	1	**3260**	Press, Hot stamping	1
3270	Press, Offset	1	**3270**	Press Offset	1
3275	Press, Padding	1	**3275**	Press, Padding	1
3280	Press, Platen	1	**3280**	Press, Platen	1
			3285	Press, Platen, Automatic feed	1
3290	Press, Platen, Hand lever	2	**3290**	Press, Platen, Hand lever	2
3295	Press, Proof	1	**3295**	Press, Proof	1
			3300	Press Proof, Reproduction	1
3305	Press, Rubber stamp	1	**3305**	Press, Rubber stamp	1
3310	Printer, Contact	1	**3310**	Printer, Contact	1
3320	Printmaker, Graphic arts	1	**3320**	Printmaker, Graphic arts	1

3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3495	Punch, Paper	1
3525	Quoin, Hi-speed	48
3530	Quoin Key, Hi-speed	4
4195	Silk Screen Unit	2
4200	Sinks, Developing	1
4205	Sinks, Platemaking	1
4600	Stapler, Saddle	1
4650	String Holder, Cone	1
4730	Tanks, Film development	5
4885	Thermometer, Photographic	2
4905	Timer, Photographic (electric)	2
4910	Timer, Photographic (spring wound)	2
4985	Tray, Photographic	12
5035	Trimmer, Paper	1
5090	Type, Assorted (see specifications for actual listing)	
5110	Typewriter, Standard	1

II. Hand Tools and Miscellaneous Supplies

Code	Item	Number
0052	Apron, Rubber	2
0080	Awl, Bookbinder's	2
0400	Bone Folder	8
0460	Brayer, Block printing	2
0485	Brush, Flat padding	2
0475	Brush, Bookbinder's	2
0490	Brush, Opaque	6
0740	Cards, Alphabet (set)	2
0760	Chases, Platen	12
1000	Composing Stick (6″)	24

3340	Projector, Filmstrip (35mm) and slide (2″ x 2″)	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3495	Punch, Paper	1
3525	Quoin, Hi-speed	48
3530	Quoin Key, Hi-speed	4
4195	Silk Screen Unit	2
4200	Sinks, Developing	1
4205	Sinks, Platemaking	1
4600	Stapler, Saddle	1
4650	String Holder, Cone	1
4730	Tanks, Film development	5
4885	Thermometer, Photographic	2
4905	Timer, Photographic (electric)	2
4910	Timer, Photographic (spring wound)	2
4985	Tray, Photographic	12
5035	Trimmer, Paper	1
5060	Truck, Bindery	1
5090	Type, Assorted (see specifications for actual listing)	
5095	Typesetter, Linecasting	1
5100	Typesetter, Photo-headsetter	1
5105	Typewriter, Electric	1
5115	Vacuum Printing Frame	1

II. Hand Tools and Miscellaneous Supplies

Code	Item	Number
0052	Apron, Rubber	2
0080	Awl, Bookbinder's	2
0400	Bone Folder	8
0460	Brayer, Block printing	2
0485	Brush, Flat padding	2
0475	Brush, Bookbinder's	2
0490	Brush, Opaque	6
0495	Brush, Type	2
0740	Cards, Alphabet (set)	2
0760	Chases, Platen	12
1000	Composing Stick (6″)	24

1005	Composing Stick (10″)	6
1010	Composing Stick (12″)	2
1015	Composing Stick (15″)	1
1020	Composing Stick, Micrometer knee (10″)	1
1160	Cutter, Linoleum (set)	6
1250	Die, Letter (set)	1
1255	Die, Number (set)	1
1260	Dispenser, Cellophane tape	3
1270	Dispenser, Gummed paper	1
1350	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1
1375	Drill, Twist, Straight shank (fractional set)	1
1540	File (see specifications for set detail)	
1550	File Card and Brush	1
1690	Furniture, Wood, Fonts	4
1710	Gauge, Auger bit	1
1765	Gauge, Line (12″)	12
1770	Gauge, Line (18″)	6
1790	Gauge, Pin (sets)	6
1840	Gauge, Type high	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1892	Gloves, Thick rubber	2
1925	Graduate, Darkroom	6
1930	Grease Gun	1
2050	Hammer, Bookbinder's backing	2
2085	Hammer, Claw (16 oz.)	1
2335	Knife, Ink	12
2345	Knife, Make ready and stripping	12
2355	Knife, Padding	2
2480	Light, Darkroom	4
2485	Light, Flood	4
2495	Locks, Magnetic galley	25
2525	Magnifiers	4
2540	Mallet, Rawhide	2
2560	Marker, Felt-tip, Color (set)	6
2810	Needle, Binding	24
2865	Oiler, Bench	4
2870	Oiler, Pump	4

1005	Composing Stick (10″)	6
1010	Composing Stick (12″)	2
1015	Composing Stick (15″)	1
1020	Composing Stick, Micrometer knee (10″)	1
1160	Cutter, Linoleum (set)	6
1250	Die, Letter (set)	1
1255	Die, Number (set)	1
1260	Dispenser, Cellophane tape	3
1270	Dispenser, Gummed paper	1
1350	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1
1375	Drill, Twist, Straight shank (fractional set)	1
1540	File (see specifications for set detail)	
1550	File Card and Brush	1
1690	Furniture, Wood, Fonts	4
1695	Galley (10″ x 16″)	6
1700	Galley (8¼″ x 13″)	100
1710	Gauge, Auger bit	1
1765	Gauge, Line (12″)	12
1770	Gauge, Line (18″)	6
1790	Gauge, Pin (sets)	6
1840	Gauge, Type high	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1892	Gloves, Thick rubber	2
1925	Graduate, Darkroom	6
1930	Grease Gun	1
2050	Hammer, Bookbinder's backing	2
2085	Hammer, Claw (16 oz.)	1
2335	Knife, Ink	12
2345	Knife, Make ready and stripping	12
2355	Knife, Padding	2
2480	Light, Darkroom	4
2485	Light, Flood	4
2495	Locks, Magnetic galley	25
2525	Magnifiers	4
2540	Mallet, Rawhide	2
2560	Marker, Felt-tip, Color (set)	6
2810	Needle, Binding	24
2865	Oiler, Bench	4
2870	Oiler, Pump	4

2890	Oilstone, Combination, India	1
2895	Oilstone, Combination, Silicon carbide	1
3085	Pliers, Combination (6″)	2
3170	Pliers, Vise-grip wrench	2
3730	Rule, Make-up	12
3820	Saw, Back	1
3890	Saw, Printer's trim	1
3965	Scissors	6
4015	Screens, Halftone, Contact	6
4070	Screwdriver, Standard bit (round blade) (set)	6
4210	Siphon, Photo	1
4355	Spaces, Assorted fonts (10 point) (see specifications for listing)	
4360	Spaces, Assorted fonts (12 point) (see specifications for listing)	
4370	Spaces, Assorted fonts (18 point) (see specifications for listing)	
4490	Square, Steel framing	1
4595	Stapler, Hand	1
4990	Triangle, 30°-60° (8″)	8
5000	Triangle, 45° (6″)	8
5070	T Square	4
5085	Tweezers, Type	12
5255	Wrench, Adjustable end (6″)	1
5360	Wrench, Socket (⅜″ drive) (set)	1
5365	Wrench, Socket (½″ drive) (set)	1

III. General Furnishings

Code	Item	Number
0155	Bench, Bookbinding (unit)	1
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	12
0535	Cabinet, Drying rack	1
0540	Cabinet, Filing	1
0550	Cabinet, Galley	2

2890	Oilstone, Combination, India	1
2895	Oilstone, Combination, Silicon carbide	1
3085	Pliers, Combination (6″)	2
3170	Pliers, Vise-grip wrench	2
3730	Rule, Make-up	12
3820	Saw, Back	1
3890	Saw, Printer's trim	1
3965	Scissors	6
4015	Screens, Halftone, Contact	6
4070	Screwdriver, Standard bit (round blade) (set)	6
4210	Siphon, Photo	1
4355	Spaces, Assorted fonts (10 point) (see specifications for listing)	
4360	Spaces, Assorted fonts (12 point) (see specifications for listing)	
4370	Spaces, Assorted fonts (18 point) (see specifications for listing)	
4490	Square, Steel framing	1
4595	Stapler, Hand	1
4990	Triangle, 30°-60° (8″)	8
5000	Triangle, 45° (6″)	8
5070	T Square	4
5085	Tweezers, Type	12
5255	Wrench, Adjustable end (6″)	1
5360	Wrench, Socket (⅜″ drive) (set)	1
5365	Wrench, Socket (½″ drive) (set)	1

III. General Furnishings

Code	Item	Number
0155	Bench, Bookbinding (unit)	1
0160	Bench, Demonstration	1
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	12
0535	Cabinet, Drying rack	1
0540	Cabinet, Filing	1
0545	Cabinet, Film cutter	1
0550	Cabinet, Galley	2

0560	Cabinet, Ink and roller	1	**0560**	Cabinet, Ink and roller	1
0595	Cabinet, Plate filing	1	**0595**	Cabinet, Plate filing	1
0605	Cabinet, Quarter case	1	**0605**	Cabinet, Quarter case	1
0620	Cabinet, Storage	1	**0620**	Cabinet, Storage	1
0635	Cabinet, Type, Single tier	2	**0635**	Cabinet, Type, Single tier	4
0710	Can, Oily waste	2	**0710**	Can, Oily waste	2
0720	Can, Safety (1 qt.)	2	**0720**	Can, Safety (1 qt.)	2
0725	Can, Safety (1 gal.)	2	**0725**	Can, Safety (1 gal.)	2
0728	Can, Safety (5 gal.)	1	**0728**	Can, Safety (5 gal.)	1
0755	Chair, Teacher's	1	**0755**	Chair, Teacher's	1
1025	Compressor, Air	1	**1025**	Compressor, Air	1
1045	Container, Benzene (1 pt.)	4	**1045**	Container, Benzene (1 pt.)	4
1050	Container, Benzene (1 gal.)	2	**1050**	Container, Benzene (1 gal.)	2
1055	Container, Benzene (5 gal.)	1	**1055**	Container, Benzene (5 gal.)	1
1235	Desk, Teacher's	1	**1235**	Desk, Teacher's	1
1592	Fire Blanket	1	**1592**	Fire Blanket	1
1593	Fire Extinguisher	3	**1593**	Fire Extinguisher	3
1600	First Aid Kit	1	**1600**	First Aid Kit	1
1900	Goggles (spectacles), Clear observation	6	**1900**	Goggles (spectacles), Clear observation	6
2932	Pan, Dust	1	**2932**	Pan, Dust	1
2980	Pencil Sharpener, Standard	1	**2980**	Pencil Sharpener, Standard	1
3560	Rack, Roll, Tympan	1	**3560**	Rack, Roll, Tympan	1
3565	Rack, Roll, Wrapping paper	1	**3565**	Rack, Roll, Wrapping paper	1
4010	Screen, Projection	1	**4010**	Screen, Projection	1
4165	Shield, Face	3	**4165**	Shield, Face	3
4680	Table, General purpose	3	**4680**	Table, General purpose	3
4685	Table, Opaquing	4	**4685**	Table, Opaquing	4
4690	Table, Overhead projector	1	**4690**	Table, Overhead projector	1
4695	Table, Pilot press	2	**4695**	Table, Pilot press	2
4720	Table, Typewriter	1	**4720**	Table, Typewriter	1

METALWORKING

Introductory			**Advanced**		
I. Fabricating Machines and Accessories			I. Fabricating Machines and Accessories		
Code	Item	Number	Code	Item	Number
			0060	Arbor, Milling machine	2
0115	Bar Folder	1	**0115**	Bar Folder	1
0260	Bender, Universal	1	**0260**	Bender, Universal	1

			0415	Boring Bar (set)	2
0450	Brake, Box and pan	1	**0450**	Brake, Box and pan	1
			0505	Buffer, Long arm	1
0510	Buffer, Pedestal	1			
			0840	Chuck, Magnetic	1
			1170	Cutter, Milling machine, End (set)	1
			1175	Cutter, Milling machine, Gear tooth, Involute (set)	1
			1180	Cutter, Milling machine, Helical, Plain	1
			1185	Cutter, Milling machine, Shell and arbor	1
			1190	Cutter, Milling machine, Slitting	1
1225	Cutting-Off Tool, Lathe	6	**1225**	Cutting-Off Tool, Lathe	6
1330	Drill, Electric, Portable (¼")	1	**1330**	Drill, Electric, Portable (¼")	1
			1335	Drill, Electric, Portable (⅜")	1
			1340	Drill, Electric, Portable (½")	1
1430	Electroplating Unit	1	**1430**	Electroplating Unit	1
			1635	Forge, Gas	1
1650	Forming Roll, Slip	1	**1650**	Forming Roll, Slip	1
1680	Furnace, Crucible	1	**1680**	Furnace, Crucible	1
1685	Furnace, Heat treating	1	**1685**	Furnace, Heat treating	1
			1975	Grinder, Heavy duty pedestal	1
1985	Grinder, Pedestal	1	**1985**	Grinder, Pedestal	1
			1990	Grinder, Surface	1
			2210	Indicator, Dial test	2
			2275	Jolt Squeezer, Foundry	1
			2385	Knurling Tool, Lathe (coarse)	6
			2390	Knurling Tool, Lathe (fine)	6
			2395	Knurling Tool, Lathe (medium)	6
2415	Lathe, Metalworking (10")	3	**2415**	Lathe, Metalworking (10")	6
			2420	Lathe, Metalworking (14")	2
			2430	Lathe, Spinning (12")	1
			2550	Mandrel, Expansion (set)	2
			2555	Mandrel Set	1
			2670	Milling Machine, Horizontal	1
			2675	Milling Machine, Universal	1

			2680	Milling Machine, Vertical	1
			2920	Oven, Core	1
			3235	Press, Arbor	1
3250	Press, Drill (15″)	2	**3250**	Press, Drill (15″)	1
			3255	Press, Drill (17″)	1
			3680	Rotary Machine, Combination	1
			3765	Sand Blaster	1
			3770	Sand Muller	1
			3825	Saw, Band (power), Metal cutting	1
3860	Saw, Hack (power)	1	**3860**	Saw, Hack (power)	1
			4120	Setting Down Machine	1
			4130	Shaper, Metal	1
			4145	Shear, Ring and circle	1
4150	Shear, Squaring foot	1	**4150**	Shear, Squaring foot	1
4455	Spray Gun Outfit	1	**4455**	Spray Gun Outfit	1
			4810	Tension Tester, Core	1
			4835	Tester, Hardness	1
4935	Tool Holder, Lathe (left hand)	6	**4935**	Tool Holder, Lathe (left hand)	6
4940	Tool Holder, Lathe (right hand)	6	**4940**	Tool Holder, Lathe (right hand)	6
4945	Tool Holder, Lathe (straight)	6	**4945**	Tool Holder, Lathe (straight)	6
			4890	Threading Tool, Lathe	2
4950	Torch, Gas	2	**4950**	Torch, Gas	2
5185	Welder, Arc	1	**5185**	Welder, Arc	1
			5190	Welder, MIG	1
5195	Welder, Spot	1	**5195**	Welder, Spot	1
			5205	Welder, TIG	1
5220	Welding Outfit, Oxyacetylene	1	**5220**	Welding Outfit, Oxyacetylene	1

II. Hand Tools and Equipment			II. Hand Tools and Equipment		
Code	Item	Number	Code	Item	Number
0045	Anvil	1	**0045**	Anvil	1
0050	Apron, Foundry	2	**0050**	Apron, Foundry	2
0052	Apron, Rubber	1	**0052**	Apron, Rubber	2
0055	Apron, Welding	2	**0055**	Apron, Welding	2
0090	Awl, Scratch	4	**0090**	Awl, Scratch	4
0145	Bellows, Molder's	1	**0145**	Bellows, Molder's	1
0465	Broom, Push	3	**0465**	Broom, Push	3
0470	Brush, Bench	12	**0470**	Brush, Bench	12
0500	Brush, Wire	6	**0500**	Brush, Wire	6
0515	Bulb, Sponge	1	**0515**	Bulb, Sponge	1
			0640	Caliper, Hermaphrodite	2

0645	Caliper, Inside (6″)	6	**0645**	Caliper, Inside (6″)	6
0655	Caliper, Outside (6″)	6	**0655**	Caliper, Outside (6″)	6
			0660	Caliper, Outside (8″)	2
			0665	Caliper, Vernier	1
0710	Can, Oily waste	1	**0710**	Can, Oily waste	1
0720	Can, Safety (1 qt.)	2	**0720**	Can, Safety (1 qt.)	2
0725	Can, Safety (1 gal.)	2	**0725**	Can, Safety (1 gal.)	2
0770	Chisel, Cape	2	**0770**	Chisel, Cape	2
0780	Chisel, Cold (set)	1	**0780**	Chisel, Cold (set)	2
0785	Chisel, Diamond point (set)	1	**0785**	Chisel, Diamond poin (set)	2
0800	Chisel, Round nose (set)	1	**0800**	Chisel, Round nose (set)	2
0875	Clamp, "C" (4″)	4	**0875**	Clamp, "C" (4″)	4
0880	Clamp, "C" (6″)	4	**0880**	Clamp, "C" (6″)	4
0885	Clamp, "C" (8″)	4	**0885**	Clamp, "C" (8″)	4
			0890	Clamp, "C" (10″)	4
0895	Clamp, "C" (12″)	2	**0895**	Clamp, "C" (12″)	4
1065	Countersink, Bit (for brace) (set)	1			
1070	Countersink, High speed	1			
1095	Crucible (#4)	2	**1095**	Crucible (#4)	2
1100	Crucible (#10)	2	**1100**	Crucible (#10)	3
1110	Crucible Hand Shank (#10)	1	**1110**	Crucible Hand Shank (#10)	1
1112	Crucible Hand Shank (#4)	1	**1112**	Crucible Hand Shank (#4)	1
1115	Crucible Lifter	1	**1115**	Crucible Lifter	1
1120	Crucible Ring Shank	1	**1120**	Crucible Ring Shank	1
1140	Cutter, Bolt	1	**1140**	Cutter, Bolt	1
			1205	Cutter, Pipe	1
1215	Cutter, Sprue	1	**1215**	Cutter, Sprue	1
1245	Die, Dapping	1	**1245**	Die, Dapping	1
1250	Die, Letter (set)	1	**1250**	Die, Letter (set)	1
1255	Die, Number (set)	1	**1255**	Die, Number (set)	1
			~~**1290**~~	~~Divider, Spring (4″)~~	2
1295	Divider, Spring (6″)	6	**1295**	Divider, Spring (6″)	4
			1300	Divider, Spring (8″)	2
1320	Dresser, Abrasive wheel	1	**1320**	Dresser, Abrasive whe	1
1350	Drill, Hand (¼″)	1	**1350**	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1	**1355**	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1	**1360**	Drill Stand, Fractional	1
1365	Drill, Twist (letter set)	1	**1365**	Drill, Twist (letter set)	1
1370	Drill, Twist (number set)	1	**1370**	Drill, Twist (number st)	1
1375	Drill, Twist, Straight shank (fractional set)	1	**1375**	Drill, Twist, Straight shank (fractional se)	1
1380	Drill, Twist, Taper shank (fractional set)	1	**1380**	Drill, Twist, Taper shank (fractional set)	1
1500	Extractor, Screw (set)	1	**1500**	Extractor, Screw (set)	1

1540	Files (see specifications for set detail)	
1550	File Card and Brush	6
1610	Flask, Foundry (large)	4
1615	Flask, Foundry (small)	4
1725	Gauge, Center	3
1800	Gauge, Screw pitch	1
1830	Gauge, Thickness ("feeler")	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1880	Gloves, Asbestos (pair)	2
1885	Gloves, Leather (pair)	4
1892	Gloves, Thick rubber (pair)	2
1900	Goggles (spectacles), Clear observation	24
1905	Goggles, Gas welding	3
2000	Groover, Hand (set)	2
2025	Hammer, Ball peen (8 oz.)	2
2030	Hammer, Ball peen (12 oz.)	4
2035	Hammer, Ball peen (16 oz.)	2
2090	Hammer, Engineer's (40 oz.)	2
2095	Hammer, Engineer's (48 oz.)	1
2115	Hammer, Riveting, Machinist's (9 oz.)	2
2130	Hammer, Soft face (4 oz.)	2
2135	Hammer, Soft face (8 oz.)	2
2145	Helmet, Welding (arc) (head type)	2

1540	Files (see specifications for set detail)	
1550	File Card and Brush	6
1610	Flask, Foundry (large)	4
1615	Flask, Foundry (small)	4
1725	Gauge, Center	6
1755	Gauge, Drill point	1
1785	Gauge, Micrometer, Depth	1
1795	Gauge, Radius and fillet	1
1800	Gauge, Screw pitch	1
1805	Gauge, Small hole	1
1820	Gauge, Surface	1
1825	Gauge, Telescopic	1
1830	Gauge, Thickness ("feeler")	1
1850	Gauge, Vernier height	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1880	Gloves, Asbestos (pair)	2
1885	Gloves, Leather (pair)	6
1892	Gloves, Thick rubber (pair)	2
1900	Goggles (spectacles), Clear observation	24
1905	Goggles, Gas welding	3
2000	Groover, Hand (set)	2
2025	Hammer, Ball peen (8 oz.)	2
2030	Hammer, Ball peen (12 oz.)	4
2035	Hammer, Ball peen (16 oz.)	2
2040	Hammer, Ball peen (30 oz.)	2
2045	Hammer, Ball peen (32 oz.)	2
2065	Hammer, Chipping	2
2090	Hammer, Engineer's (40 oz.)	2
2095	Hammer, Engineer's (48 oz.)	1
2115	Hammer, Riveting, Machinist's (9 oz.)	2
2130	Hammer, Soft face (4 oz.)	2
2135	Hammer, Soft face (8 oz.)	2
2145	Helmet, Welding (arc) (head type)	2

2450	Leggings, Molder's (pair)	2	**2450**	Leggings, Molder's (pair)	2
2535	Mallet, Hardwood	4	**2535**	Mallet, Hardwood	4
2540	Mallet, Rawhide	4	**2540**	Mallet, Rawhide	2
2545	Mallet, Rubber	2	**2545**	Mallet, Rubber	2
2620	Micrometer, Inside (set)	1	**2620**	Micrometer, Inside (set)	1
2625	Micrometer, Outside (1″)	4	**2625**	Micrometer, Outside (1″)	6
2630	Micrometer, Outside (2″)	2	**2630**	Micrometer, Outside (2″)	2
2635	Micrometer, Outside (3″)	1	**2635**	Micrometer, Outside (3″)	1
			2650	Micrometer, Outside (screw thread)	1
			2655	Micrometer, Outside (screw thread)	1
2710	Mold, Ingot	1	**2710**	Mold, Ingot	1
2835	Nipper, End cutting	1	**2835**	Nipper, End cutting	1
2865	Oiler, Bench	12	**2865**	Oiler, Bench	12
2890	Oilstone, Combination, India	2	**2890**	Oilstone, Combination, India	2
2932	Pan, Dust	1	**2932**	Pan, Dust	1
			2945	Parallels, Adjustable (set)	1
2980	Pencil Sharpener, Standard	1	**2980**	Pencil Sharpener, Standard	1
			3055	Plate, Angle	2
			3060	Plate, Surface	1
3085	Pliers, Combination (6″)	6	**3085**	Pliers, Combination (6″)	6
3090	Pliers, Combination (8″)	4	**3090**	Pliers, Combination (8″)	4
3100	Pliers, Diagonal cutting	2	**3100**	Pliers, Diagonal cutting	2
3135	Pliers, Needle nose	2	**3135**	Pliers, Needle nose	2
3155	Pliers, Straight nose	2	**3155**	Pliers, Straight nose	2
3170	Pliers, Vise-grip wrench	2	**3170**	Pliers, Vise-grip wrench	2
3455	Punch, Center (set)	4	**3455**	Punch, Center (set)	6
3475	Punch, Drive (set)	1	**3475**	Punch, Drive (set)	1
3485	Punch, Hollow (set)	1	**3485**	Punch, Hollow (set)	1
3575	Rammer, Hardwood	2	**3575**	Rammer, Hardwood	2
3580	Reamer, Center (set)	1	**3580**	Reamer, Center (set)	1
			3595	Reamer, Expansion (set)	1
3600	Reamer, Pipe	1	**3600**	Reamer, Pipe	1
3660	Riddle, Foundry	2	**3660**	Riddle, Foundry	2
3665	Rivet Set (set)	4	**3665**	Rivet Set (set)	4
3690	Rule, Circumference (36″)	2	**3690**	Rule, Circumference (36″)	2
3710	Rule, Flexible, Steel tape (12′)	2	**3710**	Rule, Flexible, Steel tape (12′)	2
			3725	Rule, Hook	4
			3740	Rule, Short (set)	1
3745	Rule, Steel (6″)	6	**3745**	Rule, Steel (6″)	8
3750	Rule, Steel (12″)	12	**3750**	Rule, Steel (12″)	12
3755	Rule, Steel (24″)	2	**3755**	Rule, Steel (24″)	2
3850	Saw, Hack (hand)	6	**3850**	Saw, Hack (hand)	6

3875	Saw, Jeweler's (4")	2
3880	Saw, Jeweler's (6")	4
3965	Scissors	1
4045	Screwdriver, Offset, Straight slot (set)	1
4050	Screwdriver, Phillips (set)	1
4070	Screwdriver, Standard bit (round blade) (set)	2
4105	Scriber	6
4110	Seamer, Handy	2
4165	Shield, Face	12
4170	Shovel, Square point	1
4222	Sleeves, Molder's	1
4225	Slick and Oval (1")	1
4230	Slick and Oval (1¼")	1
4250	Snip, Aviation (left)	2
4255	Snip, Aviation (right)	2
4260	Snip, Aviation (combination and straight)	2
4265	Snips, Hawksbill	1
4275	Snips, Tinner's, Straight (#8)	4
4280	Snips, Tinner's, Straight (#10)	2
4295	Soldering Copper, Electric (60W)	1
4300	Soldering Copper, Electric (200W)	1
4315	Soldering Copper (pair) (½ lb.)	4
4320	Soldering Copper (pair) (1 lb.)	2
4325	Soldering Copper (pair) (1½ lb.)	1
4390	Sparklighters	6
4480	Square, Combination	6
4485	Square, Combination set (with protractor and center head)	1
4510	Stake, Beakhorn	1
4520	Stake, Blowhorn	1

3875	Saw, Jeweler's (4")	2
3880	Saw, Jeweler's (6")	4
3965	Scissors	1
4035	Screwdriver, Offset, Phillips (set)	1
4045	Screwdriver, Offset, Straight slot (set)	1
4050	Screwdriver, Phillips (set)	1
4070	Screwdriver, Standard bit (round blade) (set)	2
4105	Scriber	6
4110	Seamer, Handy	2
4165	Shield, Face	12
4170	Shovel, Square point	1
4222	Sleeves, Molder's	1
4225	Slick and Oval (1")	1
4230	Slick and Oval (1¼")	1
4250	Snip, Aviation (left)	2
4255	Snip, Aviation (right)	2
4260	Snip, Aviation (combination and straight)	2
4265	Snips, Hawksbill	1
4275	Snips, Tinner's, Straight (#8)	4
4280	Snips, Tinner's, Straight (#10)	2
4295	Soldering Copper, Electric (60W)	1
4300	Soldering Copper, Electric (200W)	1
4305	Soldering Copper, Electric (300W)	1
4315	Soldering Copper (pair) (½ lb.)	2
4320	Soldering Copper (pair) (1 lb.)	2
4325	Soldering Copper (pair) (1½ lb.)	1
4390	Sparklighters	6
4480	Square, Combination	6
4485	Square, Combination set (with protractor and center head)	1
4510	Stake, Beakhorn	1
4515	Stake, Bevel edge square	1
4520	Stake, Blowhorn	1

			4525	Stake, Bottom	1
4530	Stake, Candle mold	1	**4530**	Stake, Candle mold	1
			4535	Stake, Conductor	1
			4545	Stake, Double seaming	1
			4550	Stake, Grooving	1
4555	Stake, Hatchet	1	**4555**	Stake, Hatchet	1
4560	Stake, Hollow mandrel	1	**4560**	Stake, Hollow mandrel	1
			4565	Stake, Needle case	1
			4570	Stake, Round head	1
4755	Tap and Die, Machine screw (set)	1	**4755**	Tap and Die, Machine screw (set)	1
4760	Tap and Die, NC (U.S. standard) (set)	1	**4760**	Tap and Die, NC (U.S. standard) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1	**4765**	Tap and Die, NF (S.A.E.) (set)	1
4770	Tap and Die, Pipe (set)	1	**4770**	Tap and Die, Pipe (set)	1
4915	Tongs, Blacksmith, Curved lip	2	**4915**	Tongs, Blacksmith, Curved lip	2
4925	Tongs, Pick-up	2	**4925**	Tongs, Pick-up	2
4965	Trammel Points	1	**4965**	Trammel Points	1
			5045	Trowel, Foundry	1
5065	Truck, Welding cylinder	1	**5065**	Truck, Welding cylinder	1
5120	V Block and Clamps (set)	1	**5120**	V Block and Clamps (set)	2
5130	Vise, Angle, Drill	1	**5130**	Vise, Angle, Drill	2
5135	Vise, Bench, Drill	2	**5135**	Vise, Bench, Drill	2
5140	Vise, Machinist's bench	12	**5140**	Vise, Machinist's bench	12
5150	Vise, Pin (set)	1	**5150**	Vise, Pin (set)	1
5152	Vise, Pipe	1	**5152**	Vise, Pipe	1
5255	Wrench, Adjustable end (6″)	2	**5255**	Wrench, Adjustable end (6″)	2
5260	Wrench, Adjustable end (8″)	2	**5260**	Wrench, Adjustable end (8″)	2
			5265	Wrench, Adjustable end (10″)	2
			5270	Wrench, Adjustable end (12″)	2
5280	Wrench, Allen key (hex) (set)	1	**5280**	Wrench, Allen key (hex) (set)	1
5285	Wrench, Box (set)	1	**5285**	Wrench, Box (set)	1
5335	Wrench, Open end (set)	1	**5335**	Wrench, Open end (set)	1
5340	Wrench, Pipe (10″)	1	**5340**	Wrench, Pipe (10″)	1
			5345	Wrench, Pipe (14″)	1
			5350	Wrench, Pipe (18″)	1
5360	Wrench, Socket (⅜″ drive) (set)	1	**5360**	Wrench, Socket (⅜″ drive) (set)	1
5365	Wrench, Socket (½″ drive) (set)	1	**5365**	Wrench, Socket (½″ drive) (set)	1

III. General Furnishings

Code	Item	Number
0150	Bench, Arc welding	1
0180	Bench, Gas welding	1
0195	Bench, Machine	1
0205	Bench, Metalworking (2 place)	2
0210	Bench, Metalworking (4 place)	4
0212	Bench, Molding	1
0225	Bench, Sheet metal	1
0230	Bench, Soldering	2
0235	Bench, Spot welding	1
0405	Bookcase	1
0540	Cabinet, Filing	1
0542	Cabinet, Finishing (storage)	1
0615	Cabinet, Small parts	1
0620	Cabinet, Storage	4
0625	Cabinet, Tool storage	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
1675	Furnace, Bench	2
3340	Projector, Filmstrip (35mm) and slide (2" x 2")	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3555	Rack, Metal storage	1
4010	Screen, Projection	1
4615	Stool, Student's adjustable	24
4670	Table, Drafting	1
4690	Table, Overhead projector	1

III. General Furnishings

Code	Item	Number
0150	Bench, Arc welding	2
0180	Bench, Gas welding	2
0195	Bench, Machine	1
0205	Bench, Metalworking (2 place)	2
0210	Bench, Metalworking (4 place)	4
0212	Bench, Molding	1
0225	Bench, Sheet metal	1
0230	Bench, Soldering	1
0235	Bench, Spot welding	1
0240	Bench, TIG welding	1
0405	Bookcase	1
0540	Cabinet, Filing	1
0542	Cabinet, Finishing (storage)	1
0615	Cabinet, Small parts	1
0620	Cabinet, Storage	6
0625	Cabinet, Tool storage	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
1675	Furnace, Bench	2
3340	Projector, Filmstrip (35mm) and slide (2" x 2")	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3555	Rack, Metal storage	1
4010	Screen, Projection	1
4445	Spray Booth, Dry	1
4615	Stool, Student's adjustable	24
4670	Table, Drafting	1
4690	Table, Overhead projector	1

PLASTICS

Introductory

I. Basic Plastics Equipment

Code	Item	Number
0070	Autoclave	1
1510	Extruder, Medium	1
1515	Extruder, Small	1
2725	Molding Press, Compression (large)	1
2730	Molding Press, Compression (medium)	1
2735	Molding Press, Compression (small)	1
2745	Holding Press, Injection (medium)	1
2750	Molding Press, Injection (small)	1
2915	Oven	1
4450	Spray Gun (all-materials)	1
4870	Thermoforming Press, Vacuum (large)	1
4880	Thermoforming Press, Vacuum (small)	1

II. Auxiliary Plastics Equipment

Code	Item	Number
0510	Buffer, Pedestal	2
3945	Scale, Laboratory	1
4655	Strip heater	1

Advanced

I. Basic Plastics Equipment

Code	Item	Number
0070	Autoclave	1
1505	Extruder, Large	1
1510	Extruder, Medium	1
1515	Extruder, Small	1
2715	Molder, Blow	1
2720	Molder, Rotational	1
2725	Molding Press, Compression (large)	1
2730	Molding Press, Compression (medium)	1
2740	Molding Press, Injection (large)	1
2745	Holding Press, Injection (medium)	1
2755	Molding Press, Transfer (large)	1
2760	Molding Press, Transfer (medium)	1
2915	Oven	1
3230	Pre-Expander, Polystyrene	1
3975	Scrape Granulator	1
4450	Spray Gun (all-materials)	1
4465	Spray Unit, Reinforced plastics	1
4870	Thermoforming Press, Vacuum (large)	1
4875	Thermoforming Press, Vacuum (medium)	1
4880	Thermoforming Press, Vacuum (small)	1

II. Auxiliary Plastics Equipment

Code	Item	Number
0510	Buffer, Pedestal	2
3945	Scale, Laboratory	1
4655	Strip heater	1

4900	Timer, Interval	1
5230	Welding Unit, Plastics	1

III. Plaster Casting Equipment

Code	Item	Number
1060	Continer, Plaster	1
2700	Mixing Bowls (set)	3
3970	Scoop, Plaster	1
4005	Screening Wheel	1

IV. Finishing Equipment

Code	Item	Number
4445	Spray Booth, Dry	1
4455	Spray Gun Outfit	1

V. Woodworking Equipment

Code	Item	Number
1320	Dresser, Abrasive wheel	1
1330	Drill, Electric, Portable (¼″)	1
1340	Drill, Electric, Portable (½″)	1
1965	Grinder, Edge tool (bench)	1
2260	Jointer (6″)	1
2430	Lathe, Spinning (12″)	1
2435	Lathe, Wood turning	1
3250	Press, Drill (15″)	1
3675	Router, Portable, Electric	1
3780	Sander, Belt, Portable, Electric	1
3790	Sander, Disc	1
3795	Sander, Finishing, Portable, Electric	1
3810	Sander, Spindle	1
3830	Saw, Band, Wood-cutting	1
3835	Saw, Circular, Power	1
3885	Saw, Jig (scroll)	1
3900	Saw, Sabre (bayonet)	1

4830	Tester, Guided bend	1
4835	Tester, Hardness	1
4860	Testing Machine, Tensile	1
4900	Timer, Interval	1
5230	Welding Unit, Plastics	1

III. Plaster Casting Equipment

Code	Item	Number
1060	Container, Plaster	1
2700	Mixing Bowls (set)	3
3970	Scoop, Plaster	1
4005	Screening Wheel	1

IV. Finishing Equipment

Code	Item	Number
4445	Spray Booth, Dry	1
4455	Spray Gun Outfit	1

V. Woodworking Equipment

Code	Item	Number
1320	Dresser, Abrasive wheel	1
1330	Drill, Electric, Portable (¼″)	1
1340	Drill, Electric, Portable (½″)	1
1965	Grinder, Edge tool (bench)	1
2260	Jointer (6″)	1
2430	Lathe, Spinning (12″)	1
2435	Lathe, Wood turning	1
3250	Press, Drill (15″)	1
3675	Router, Portable, Electric	1
3780	Sander, Belt, Portable, Electric	1
3790	Sander, Disc	1
3795	Sander, Finishing, Portable, Electric	1
3810	Sander, Spindle	1
3830	Saw, Band, Wood-cutting	1
3835	Saw, Circular, Power	1
3885	Saw, Jig (scroll)	1
3900	Saw, Sabre (bayonet)	1

VI. Metalworking Equipment

Code	Item	Number
0260	Bender, Universal	1
0450	Brake, Box and pan	1
1650	Forming Roll, Slip	1
1955	Grinder, Belt	1
4150	Shear, Squaring foot	1
5195	Welder, Spot	1

VI. Metalworking Equipment

Code	Item	Number
0260	Bender, Universal	1
0450	Brake, Box and pan	1
1615	Flask, Foundry (small)	1
1650	Forming Roll, Slip	1
1680	Furnace, Crucible	1
1955	Grinder, Belt	1
2415	Lathe, Metalworking (10″)	1
2940	Pantograph, Metalworking	1
3860	Saw, Hack, Power	1
4150	Shear, Squaring foot	1
4155	Shearing and Forming Machine, Universal	1
4865	Testing Machine, Universal	1
5185	Welder, Arc	1
5195	Welder, Spot	1
5220	Welding Outfit, Oxyacetylene	1

VII. Hand Tools

Code	Item	Number
0085	Awl, Brad	2
0285	Bit, Auger (set)	1
0430	Brace, Ratchet	1
0645	Caliper, Inside (6″)	1
0655	Caliper, Outside (6″)	1
0765	Chisel, Butt (set)	2
0775	Chisel, Carving (set)	2
0780	Chisel, Cold (set)	2
0805	Chisel, Socket firmer (set)	1
0835	Chisel, Wood turning (set)	1
0845	Circle Cutter	1
0850	Clamp, Bar (36″)	8
0855	Clamp, Bar (48″)	4
0880	Clamp, "C" (6″)	12
0885	Clamp, "C" (8″)	6
0945	Clamp, Spring (#3)	12
1065	Countersink, Bit (for brace) (set)	1
1295	Divider, Spring (6″)	1
1350	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1

VII. Hand Tools

Code	Item	Number
0085	Awl, Brad	2
0285	Bit, Auger (set)	1
0430	Brace, Ratchet	1
0645	Caliper, Inside (6″)	1
0655	Caliper, Outside (6″)	1
0765	Chisel, Butt (set)	2
0775	Chisel, Carving (set)	2
0780	Chisel, Cold (set)	2
0805	Chisel, Socket firmer (set)	1
0835	Chisel, Wood turning (set)	1
0845	Circle Cutter	1
0850	Clamp, Bar (36″)	8
0855	Clamp, Bar (48″)	4
0880	Clamp, "C" (6″)	12
0885	Clamp, "C" (8″)	6
0945	Clamp, Spring (#3)	12
1065	Countersink, Bit (for brace) (set)	1
1295	Divider, Spring (6″)	1
1350	Drill, Hand (¼″)	1
1355	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1

1370	Drill, Twist (number set)	1
1375	Drill, Twist, Straight shank (fractional set)	1
1500	Extractor, Screw (set)	1
1540	Files (see specifications for set)	
1550	File Card and Brush	6
1570	File, Needle (set)	1
1710	Gauge, Auger bit	1
1775	Gauge, Marking	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1900	Goggles (spectacles), Clear observation	20
1915	Graduate Cylinder (100cc)	2
1920	Graduate Cylinder (500cc)	2
2030	Hammer, Ball peen (12 oz.)	1
2130	Hammer, Soft face	2
2085	Hammer, Claw (16 oz.)	2
2540	Mallet, Rawhide	2
2625	Micrometer, Outside (1″)	1
2630	Micrometer, Outside (2″)	1
2800	Nail Set (1/16″ tip)	6
2865	Oiler, Bench	6
2890	Oilstone, Combination, India	2
2895	Oilstone, Combination, Silicon carbide	2
3010	Plane, Jack	2
3085	Pliers, Combination (6″)	1
3090	Pliers, Combination (8″)	1
3100	Pliers, Diagonal cutting	1
3110	Pliers, End cutting	1
3155	Pliers, Straight nose	1

1370	Drill, Twist (number set)	1
1375	Drill, Twist, Straight shank (fractional set)	1
1500	Extractor, Screw (set)	1
1540	Files (see specifications for set)	
1550	File Card and Brush	6
1570	File, Needle (set)	1
1710	Gauge, Auger bit	1
1775	Gauge, Marking	1
1855	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1
1900	Goggles (spectacles), Clear observation	20
1915	Graduate Cylinder (100cc)	2
1920	Graduate Cylinder (500cc)	2
2030	Hammer, Ball peen (12 oz.)	1
2130	Hammer, Soft face	2
2085	Hammer, Claw (16 oz.)	2
2140	Helmet, Welding (arc) (hand type)	2
2145	Helmet, Welding (head type)	1
2540	Mallet, Rawhide	2
2625	Micrometer, Outside (1″)	1
2630	Micrometer, Outside (2″)	1
2800	Nail Set (1/16″ tip)	6
2865	Oiler, Bench	6
2890	Oilstone, Combination, India	2
2895	Oilstone, Combination, Silicon carbide	2
2995	Pipet Control, Microsyrnge	1
3010	Plane, Jack	2
3085	Pliers, Combination (6″)	1
3090	Pliers, Combination (8″)	1
3100	Pliers, Diagonal cutting	1
3110	Pliers, End cutting	1
3155	Pliers, Straight nose	1

3160	Pliers, Tongue	1
3170	Pliers, Vise-grip wrench	1
3455	Punch, Center (set)	3
3480	Punch, Hand (set)	1
3500	Punch, Pin (set)	1
3750	Rule, Steel (12″)	6
3755	Rule, Steel (24″)	6
3815	Sanding Drums (set)	1
3820	Saw, Back	2
3830	Saw, Coping	2
3850	Saw, Hack (hand)	2
3865	Saw, Hand, Crosscut	2
3965	Scissors	1
3980	Scraper, Cabinet	2
3995	Scraper, Hand	6
4070	Screwdriver, Standard bit (round blade) (set)	6
4165	Shield, Face	6
4275	Snips, Tinner's, Straight (#8)	2
4480	Square, Combination	6
4485	Square, Combination set (with protractor and center head)	1
4490	Square, Steel framing	2
4760	Tap and Die, NC (U.S. standard) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1
4775	T Bevel, Sliding	1
5120	V Block and Clamps (set)	1
5255	Wrench, Adjustable end (6″)	1
5260	Wrench, Adjustable end (8″)	1
5265	Wrench, Adjustable end (10″)	1
5270	Wrench, Adjustable end (12″)	1
5280	Wrench, Allen key (hex) (set)	1
5290	Wrench, Combination box and open (set)	1
5360	Wrench, Socket (3/8″ drive) (set)	1

3160	Pliers, Tongue	1
3170	Pliers, Vise-grip wrench	1
3455	Punch, Center (set)	3
3480	Punch, Hand (set)	1
3500	Punch, Pin (set)	1
3750	Rule, Steel (12″)	6
3755	Rule, Steel (24″)	6
3815	Sanding Drums (set)	1
3820	Saw, Back	2
3830	Saw, Coping	2
3850	Saw, Hack (hand)	2
3865	Saw, Hand, Crosscut	2
3965	Scissors	1
3980	Scraper, Cabinet	2
3995	Scraper, Hand	6
4070	Screwdriver, Standard bit (round blade) (set)	6
4165	Shield, Face	6
4275	Snips, Tinner's, Straight (#8)	2
4480	Square, Combination	6
4485	Square, Combination set (with protractor and center head)	1
4490	Square, Steel framing	2
4760	Tap and Die, NC (U.S. standard) (set)	1
4765	Tap and Die, NF (S.A.E.) (set)	1
4775	T Bevel, Sliding	1
5120	V Block and Clamps (set)	1
5255	Wrench, Adjustable end (6″)	1
5260	Wrench, Adjustable end (8″)	1
5265	Wrench, Adjustable end (10″)	1
5270	Wrench, Adjustable end (12″)	1
5280	Wrench, Allen key (hex) (set)	1
5290	Wrench, Combination box and open (set)	1
5360	Wrench, Socket (3/8″ drive) (set)	1

VIII. General Furnishings

Code	Item	Number
0195	Bench, Machine	2
0210	Bench, Metalworking (4 place)	2
0212	Bench, Molding	1
0215	Bench, Plaster	1
0255	Bench, Woodworking (4 place)	4
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	12
0540	Cabinet, Filing	1
0542	Cabinet, Finishing supply	2
0590	Cabinet, Parts storage	1
0610	Cabinet, Sheet plastics storage	1
0620	Cabinet, Storage	1
0625	Cabinet, Tool storage	1
0710	Can, Oily waste	2
0720	Can, Safety (1 qt.)	6
0725	Can, Safety (1 gal.)	6
0755	Chair, Teacher's	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2" x 2")	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3545	Rack, Lumber	1
3555	Rack, Metal storage	1
4010	Screen, Projection	1
4690	Table, Overhead projector	1

VIII. General Furnishings

Code	Item	Number
0150	Bench, Arc welding	1
0180	Bench, Gas welding	1
0195	Bench, Machine	2
0210	Bench, Metalworking (4 place)	2
0212	Bench, Molding	1
0215	Bench, Plaster	1
0255	Bench, Woodworking (4 place)	6
0405	Bookcase	1
0465	Broom, Push	3
0470	Brush, Bench	12
0540	Cabinet, Filing	1
0542	Cabinet, Finishing supply	2
0590	Cabinet, Parts storage	1
0610	Cabinet, Sheet plastics storage	1
0620	Cabinet, Storage	1
0625	Cabinet, Tool storage	1
0710	Can, Oily waste	2
0720	Can, Safety (1 qt.)	6
0725	Can, Safety (1 gal.)	6
0755	Chair, Teacher's	1
1235	Desk, Teacher's	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
2660	Microscope	1
2932	Pan, Dust	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2" x 2")	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3545	Rack, Lumber	1
3555	Rack, Metal storage	1
4010	Screen, Projection	1
4690	Table, Overhead projector	1
5065	Truck, Welding cylinder	

WOODWORKING

Introductory

I. Fabricating Machines

Code	Item	Number
1330	Drill, Electric, Portable (1/4″)	1
1965	Grinder, Edge tool (bench)	1
1980	Grinder, Oil tool	1
2260	Jointer (6″)	1
2435	Lathe, Wood turning	3
3250	Press, Drill (15″)	1
3675	Router, Portable, Electric	1
3780	Sander, Belt, Portable, Electric	1
3785	Sander, Combination belt and disc	1
3795	Sander, Finishing, Portable, Electric	1
3810	Sander, Spindle	1
3830	Saw, Band, Woodcutting	1
3835	Saw, Circular, Power	1
3885	Saw, Jig (scroll)	1

II. Hand Tools and Equipment

Code	Item	Number
0085	Awl, Brad	2
0090	Awl, Scratch	4
0125	Bar, Wrecking	1
0145	Bellows, Molder's	4

Advanced

I. Fabricating Machines

Code	Item	Number
1330	Drill, Electric, Portable (1/4″)	1
1335	Drill, Electric, Portable (3/8″)	1
1965	Grinder, Edge tool (bench)	1
1980	Grinder, Oil tool	1
2260	Jointer (6″)	1
2265	Jointer (8″)	1
2435	Lathe, Wood turning	3
2780	Mortiser, Hollow chisel	1
3025	Plane, Portable, Electric	1
3250	Press, Drill (15″)	1
3675	Router, Portable, Electric	1
3780	Sander, Belt, Portable, Electric	1
3785	Sander, Combination belt and disc	1
3795	Sander, Finishing, Portable, Electric	1
3805	Sander, Handblock stroke	1
3810	Sander, Spindle	1
3830	Saw, Band, Woodcutting	1
3835	Saw, Circular, Power	1
3885	Saw, Jig (scroll)	1
3895	Saw, Radial-arm, Power	1
3900	Saw, Sabre (bayonet)	1
4135	Shaper, Spindle (floor model)	1
4660	Surfacer (single surface planer)	1

II. Hand Tools and Equipment

Code	Item	Number
0085	Awl, Brad	2
0090	Awl, Scratch	4
0125	Bar, Wrecking	1
0145	Bellows, Molder's	4

0285	Bit, Auger (set)	2
0290	Bit, Combination drill and countersink (set)	1
0295	Bit, Combination drill and counterbore (set)	1
0305	Bit, Expansive	1
0310	Bit, Extension	1
0315	Bit, Forstner (brace set)	1
0320	Bit, Forstner (machine set)	1
0325	Bit, Multi-spur (set)	1
0330	Bit, Plug cutter (set)	1
0345	Bit, Twist, Car	1
0365	Block, Sanding	24
0430	Brace, Ratchet	5
0435	Bracket, Saw horse (pair)	2
0465	Broom, Push	6
0470	Brush, Bench	24
0520	Burnisher	1
0710	Can, Oily waste	1
0720	Can, Safety (1 qt.)	4
0725	Can, Safety (1 gal.)	3
0765	Chisel, Butt (set)	12
0775	Chisel, Carving (set)	4
0790	Chisel, Gouge, Inside (set)	3
0795	Chisel, Gouge, Outside (set)	3
0805	Chisel, Socket firmer (set)	4
0835	Chisel, Wood turning (set)	3
0845	Circle Cutter	1
0850	Clamp, Bar (36″)	6
0855	Clamp, Bar (48″)	6
0870	Clamp, "C" (3″)	4
0875	Clamp, "C" (4″)	4
0880	Clamp, "C" (6″)	4
0885	Clamp, "C" (8″)	4
0900	Clamp, Corner	4
0905	Clamp, Fixture (set)	6
0910	Clamp, Handscrew (#3/o)	6
0915	Clamp, Handscrew (#0)	6
0920	Clamp, Handscrew (#1)	12
0925	Clamp, Handscrew (#2)	12

0285	Bit, Auger (set)	2
0290	Bit, Combination drill and countersink (set)	1
0295	Bit, Combination drill and counterbore (set)	1
0300	Bit, Electrician's	1
0305	Bit, Expansive	1
0310	Bit, Extension	1
0315	Bit, Forstner (brace set)	1
0320	Bit, Forstner (machine set)	1
0325	Bit, Multi-spur (set)	1
0330	Bit, Plug cutter (set)	1
0345	Bit, Twist, Car	1
0365	Block, Sanding	24
0430	Brace, Ratchet	5
0435	Bracket, Saw horse (pair)	2
0465	Broom, Push	6
0470	Brush, Bench	24
0520	Burnisher	1
0710	Can, Oily waste	1
0720	Can, Safety (1 qt.)	4
0725	Can, Safety (1 gal.)	3
0765	Chisel, Butt (set)	12
0775	Chisel, Carving (set)	4
0790	Chisel, Gouge, Inside (set)	3
0795	Chisel, Gouge, Outside (set)	3
0805	Chisel, Socket firmer (set)	4
0835	Chisel, Wood turning (set)	3
0845	Circle Cutter	1
0850	Clamp, Bar (36″)	6
0855	Clamp, Bar (48″)	6
0870	Clamp, "C" (3″)	4
0875	Clamp, "C" (4″)	4
0880	Clamp, "C" (6″)	4
0885	Clamp, "C" (8″)	4
0900	Clamp, Corner	4
0905	Clamp, Fixture (set)	6
0910	Clamp, Handscrew (#3/o)	6
0915	Clamp, Handscrew (#0)	6
0920	Clamp, Handscrew (#1)	12
0925	Clamp, Handscrew (#2)	12

0930	Clamp, Handscrew (#3)	6	**0930**	Clamp, Handscrew (#3)	6
0935	Clamp, Mitre frame	1	**0935**	Clamp, Mitre frame	1
0995	Compass, Pencil	3	**0995**	Compass, Pencil	3
1065	Countersink Bit (for brace) (set)	2	**1065**	Countersink Bit (for brace) (set)	2
1070	Countersink, High Speed	2	**1070**	Countersink, High Speed	2
1150	Cutter, Glass	1	**1150**	Cutter, Glass	1
1250	Die, Letter (set)	1	**1250**	Die, Letter (set)	1
1255	Die, Number (set)	1	**1255**	Die, Number (set)	1
1305	Divider, Wing	2	**1305**	Divider, Wing	2
1317	Dowel Centers (pairs) (set)	1	**1317**	Dowel Centers (pairs) (set)	1
1320	Dresser, Abrasive wheel	1	**1320**	Dresser, Abrasive wheel	1
1350	Drill, Hand (¼″)	2	**1350**	Drill, Hand (¼″)	4
1355	Drill, Hand (⅜″)	1	**1355**	Drill, Hand (⅜″)	1
1360	Drill Stand, Fractional	1	**1360**	Drill Stand, Fractional	1
1375	Drill, Twist, Straight shank (fractional set)	1	**1375**	Drill, Twist, Straight shank (fractional set)	1
1540	Files (see specifications for set detail)	1	**1540**	Files (see specifications for set detail)	1
1545	File, Auger bit	3	**1545**	File, Auger bit	3
1550	File Card and Brush	6	**1550**	File Card and Brush	6
1665	Funnel	2	**1665**	Funnel	2
1710	Gauge, Auger bit	1	**1710**	Gauge, Auger bit	1
1745	Gauge, Drill, Fractions	1	**1745**	Gauge, Drill, Fractions	1
1775	Gauge, Marking	6	**1775**	Gauge, Marking	6
1780	Gauge, Marking (double bar)	2	**1780**	Gauge, Marking (double bar)	2
1800	Gauge, Screw pitch	1	**1800**	Gauge, Screw pitch	1
1855	Gauge, Wire and sheet metal (American)	1	**1855**	Gauge, Wire and sheet metal (American)	1
1860	Gauge, Wire and sheet metal (U.S.S.)	1	**1860**	Gauge, Wire and sheet metal (U.S.S.)	1
1885	Gloves, Leather (pair)	4	**1885**	Gloves, Leather (pair)	4
1900	Goggles, Clear observation	24	**1900**	Goggles, Clear observation	24
1930	Grease Gun	1	**1930**	Grease Gun	1
2070	Hammer, Claw (7 oz.)	3	**2070**	Hammer, Claw (7 oz.)	3
2080	Hammer, Claw (13 oz.)	6	**2080**	Hammer, Claw (13 oz.)	6
2085	Hammer, Claw (16 oz.)	6	**2085**	Hammer, Claw (16 oz.)	6
2107	Hammer, Magnetic	2	**2107**	Hammer, Magnetic	2
2175	Hose, Air	1	**2175**	Hose, Air	1
2245	Jig, Dowelling	2	**2245**	Jig, Dowelling	2
2360	Knife, Putty	3	**2360**	Knife, Putty	3
2370	Knife, Sloyd	6	**2370**	Knife, Sloyd	6
2465	Level	1	**2465**	Level	1
2535	Mallet, Hardwood	4	**2535**	Mallet, Hardwood	4

2540	Mallet, Rawhide	4	**2540**	Mallet, Rawhide	4
2690	Mitre Box	1	**2690**	Mitre Box	1
2800	Nail Set (1/16″ tip)	4	**2800**	Nail Set (1/16″ tip)	4
2805	Nail Set (3/32″ tip)	4	**2805**	Nail Set (3/32″ tip)	4
2835	Nipper, End cutting	1	**2835**	Nipper, End cutting	1
2845	Nozzle, Blow gun (air line)	1	**2845**	Nozzle, Blow gun (air line)	1
2865	Oiler, Bench	6	**2865**	Oiler, Bench	6
2870	Oiler, Pump	1	**2870**	Oiler, Pump	1
2885	Oilstone, Carving tool slips (set)	1	**2885**	Oilstone, Carving tool slips (set)	1
2890	Oilstone, Combination, India	1	**2890**	Oilstone, Combination, India	1
2900	Oilstone, Gouge slip	1	**2900**	Oilstone, Gouge slip	1
2905	Oilstone, Slip	1	**2905**	Oilstone, Slip	1
2932	Pan, Dust	1	**2932**	Pan, Dust	1
3000	Plane, Block	3	**3000**	Plane, Block	3
3005	Plane Iron, Double	24	**3005**	Plane Iron, Double	24
3010	Plane, Jack	18	**3010**	Plane, Jack	18
3015	Plane, Jointer	2	**3015**	Plane, Jointer	2
3030	Plane, Rabbet	4	**3030**	Plane, Rabbet	4
3035	Plane, Router	4	**3035**	Plane, Router	4
3040	Plane, Smoothing	6	**3040**	Plane, Smoothing	6
3085	Pliers, Combination (6″)	2	**3085**	Pliers, Combination (6″)	2
3170	Pliers, Vise-grip wrench	2	**3170**	Pliers, Vise-grip wrench	2
3360	Protractor, Machinist's bevel	2	**3360**	Protractor, Machinist's bevel	2
3455	Punch, Center (set)	3	**3455**	Punch, Center (set)	3
3695	Rule, Flexible, Steel tape (6′)	4			
			3700	Rule, Flexible, Steel tape (8′)	4
3705	Rule, Flexible, Steel tape (10′)	4	**3705**	Rule, Flexible, Steel tape (10′)	4
3715	Rule, Flexible, Steel tape (25′)	1	**3715**	Rule, Flexible, Steel tape (25′)	1
			3720	Rule, Flexible, Steel tape (50′)	1
3725	Rule, Flexible, Steel tape (100′)	1	**3725**	Rule, Flexible, Steel tape (100′)	1
3750	Rule, Steel (12″)	18	**3750**	Rule, Steel (12″)	18
3755	Rule, Steel (24″)	6	**3755**	Rule, Steel (24″)	6
3760	Rule, Steel (36″)	3	**3760**	Rule, Steel (36″)	3
3815	Sanding Drums (set)	1			
3820	Saw, Back	6	**3820**	Saw, Back	6
3845	Saw, Coping	12	**3845**	Saw, Coping	6
3850	Saw, Hack (hand)	1	**3850**	Saw, Hack (hand)	1
3865	Saw, Hand, Crosscut	4	**3865**	Saw, Hand, Crosscut	4
3870	Saw, Hand, Rip	4	**3870**	Saw, Hand, Rip	4
3887	Saw, Keyhole	1	**3887**	Saw, Keyhole	1

3925	Scale, Architect's	1
3965	Scissors	4
3980	Scraper, Cabinet	4
3995	Scraper, Hand	6
4040	Screwdriver, Offset ratchet	1
4045	Screwdriver, Offset, Straight slot (set)	2
4050	Screwdriver, Phillips (set)	2
4060	Screwdriver, Spiral ratchet	2
4070	Screwdriver, Standard bit (round blade) (set)	2
4165	Shield, Face	12
4295	Soldering Copper, Electric	1
4400	Spokeshave, Convex bottom	4
4405	Spokeshave, Straight	4
4455	Spray Gun Outfit	1
4480	Square, Combination	2
4490	Square, Steel framing	6
4495	Square, Try (6″)	24
4505	Square, Try (12″)	4
4775	T Bevel	3
4965	Trammel Points	2
4990	Triangle, 30°-60° (8″)	1
5005	Triangle, 45° (8″)	1
5070	T Square	1
5135	Vise, Bench, Drill	1
5145	Vise, Mitre	1
5260	Wrench, Adjustable end (8″)	1
5280	Wrench, Allen key (hex) (set)	1
5335	Wrench, Open end (set)	1
5360	Wrench, Socket (⅜″ drive) (set)	1

III. Experimental and Research Equipment

Code	Item	Number

3905	Saw, Veneer	4
3925	Scale, Architect's	1
3965	Scissors	4
3980	Scraper, Cabinet	4
3995	Scraper, Hand	6
4040	Screwdriver, Offset ratchet	1
4045	Screwdriver, Offset, Straight slot (set)	2
4050	Screwdriver, Phillips (set)	2
4060	Screwdriver, Spiral ratchet	2
4070	Screwdriver, Standard bit (round blade) (set)	2
4165	Shield, Face	12
4295	Soldering Copper, Electric	1
4400	Spokeshave, Convex bottom	4
4405	Spokeshave, Straight	4
4455	Spray Gun Outfit	1
4480	Square, Combination	2
4490	Square, Steel framing	6
4495	Square, Try (6″)	24
4505	Square, Try (12″)	4
4775	T Bevel	2
4965	Trammel Points	2
4990	Triangle, 30°-60° (8″)	1
5005	Triangle, 45° (8″)	1
5070	T Square	1
5135	Vise, Bench, Drill	1
5145	Vise, Mitre	1
5280	Wrench, Allen key (hex) (set)	1
5335	Wrench, Open end (set)	1
5360	Wrench, Socket (⅜″ drive) (set)	1

III. Experimental and Research Equipment

Code	Item	Number
0100	Balance, Beam	1
2190	Hot Plate, Electric	1
2225	Jack, Auto, Hydraulic (standard type) (1½ ton)	3

2660	Microscope	1

IV. General Furnishings

Code	Item	Number
0160	Bench, Demonstration	1
0250	Bench, Woodworking (2 place)	8
0255	Bench, Woodworking (4 place)	2
0405	Bookcase	2
0540	Cabinet, Filing	2
0542	Cabinet, Finishing (str)	1
0575	Cabinet, Machine accessory	1
0580	Cabinet, Nail and screw storage	1
0620	Cabinet, Storage	1
0625	Cabinet, Tool storage	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1405	Dust Collection System	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2" x 2")	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3540	Rack, Glue clamp	1

2590	Meter, Galvanometer	1
2605	Meter, Moisture content (electric)	1
2610	Meter, Volt-ohm (multi-range)	1
2660	Microscope	1
2915	Oven	1
3265	Press, Hydraulic, Heated platen	1
3940	Scale, Household	1
3945	Scale, Laboratory	1

IV. General Furnishings

Code	Item	Number
0160	Bench, Demonstration	1
0170	Bench, Electric demonstration	1
0250	Bench, Woodworking (2 place)	8
0255	Bench, Woodworking (4 place)	2
0405	Bookcase	2
0540	Cabinet, Filing	2
0542	Cabinet, Finishing (str)	1
0575	Cabinet, Machine accessory	1
0580	Cabinet, Nail and screw storage	1
0620	Cabinet, Storage	1
0625	Cabinet, Tool storage	1
0755	Chair, Teacher's	1
1025	Compressor, Air	1
1235	Desk, Teacher's	1
1405	Dust Collection System	1
1592	Fire Blanket	1
1593	Fire Extinguisher	3
1600	First Aid Kit	1
2980	Pencil Sharpener, Standard	1
3340	Projector, Filmstrip (35mm) and slide (2" x 2")	1
3345	Projector, Motion picture, Sound	1
3350	Projector, Overhead	1
3540	Rack, Glue clamp	1

4010	Screen, Projection	1
4670	Table, Drafting	1
4690	Table, Overhead projector	1
4675	Table, Finishing	1

3568	Rack, Roll, Wrapping paper	1
4010	Screen, Projection	1
4445	Spray Booth, Dry	1
4670	Table, Drafting	1
4690	Table, Overhead projector	1
4675	Table, Finishing	1
4715	Table, Spraying	1

II. EQUIPMENT SPECIFICATIONS

Introduction:

The items of equipment described below are alphabetically arranged and chronologically numbered. In addition, each item is followed by a listing of the Sections that recommended their inclusion. Where Sections recommended equipment identical in name but not in detail, their unique specification has been separated and so designated.

It was not intended that purchases could be made directly from this Equipment Guide without further resort to catalogs and more detailed specification. The items are specified only in general terms so that they may be clearly identified. Most items bear basic sizes, dimensions, capacities, and safety considerations where they apply. Special care was exercised to avoid the reference to a particular brand name or company—especially when equivalent equipment is available from more than one source.

MASTER LIST OF EQUIPMENT

0005 Adaptor, Socket
General Shop
For socket wrenches; ⅜" to ½" drive.

0010 Adaptor, Socket
General Shop
For socket wrenches; ½" to ⅜" drive.

0015 Airbrush
Ceramics: beginning, advanced
Graphic Arts: advanced
With single control for air and ink; fine, medium, and heavy heads (with ¼ oz. color cup, 3 oz. color bottle); hanger; hose coupling; 10' hose and fittings; reamer; instructions; protective case.

0020 Aligner, Connecting rod
Auto and Power Mechanics: advanced
With bend and twist indicator; V block; bending bar.

0025 Alignment Tool (set)
Electricity-Electronics: beginning, advanced
Basic set of trim tools for radio/T.V. r.f alignment.

0030 Alternator-Generator-Regulator Test Stand
(Alternator Test Equipment, set)
Auto and Power Mechanics: advanced
For all 6, 12, 24, and 32 volt testing at outputs up to 700 watts; for all passenger cars and light truck equipment; to develop over 2 HP; 220 V, single phase.

0035 Analyzer, Capacitor
Auto and Power Mechanics: advanced
Capacitance bridge measures up to 2000 uF in 5 overlapping ranges; insulation resistance of papers, ceramics, and micas directly read on large meter; dual range; leadage current read directly on meter; variable ranges of DC voltage for testing at exact rated voltage; reads power factor of electrolytics; meter protector of solid-state design; color-keyed push buttons for instant range selection.

0040 Analyzer, Engine
Auto and Power Mechanics: advanced
Motor tune-up tester; portable unit; includes scope; combustion booster unit; coil breaker unit; tach-dwell unit; condenser-vacuum unit; head frame assembly; portable cabinet; complete motor tester model.

0045 Anvil
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
100 lb.; face: tool steel, tempered, ground and polished; horn: covered with tough untempered steel; horn tip all steel; stand.

0050 Apron, Foundry
General Shop
Metalworking: beginning, advanced
Leather, approximately 44"L.

0052 Apron, Rubber
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced

0055 Apron, Welding
General Shop
Metalworking: beginning, advanced
Leather; approximately 44"L.

0060 Arbor, Milling machine
Metalworking: advanced
1-inch, "B" bearing.

0065 Atomizer
Ceramics: beginning, advanced
General shop
Lightweight, well balanced, self-draining, designed to be used in one hand and for water base gum binders.

0070 Autoclave
Plastics: beginning, advanced
Steam pressure regulated to 50 p.s.i., min. capacity 2 gals., safety

locks on doors, steam generator included if high pressure steam not available.

0075 Automatic Transmission Tool (set)
Auto and Power Mechanics: advanced
A complete unit to facilitate service, repair, and adjustment of various automatic transmissions.

0080 Awl, Bookbinder's
Graphic Arts: beginning, advanced
Detachable sharp steel point 3″L; point tightly clamped into a hardwood, leather topped handle; points are removable by means of a key.

0085 Awl, Brad
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced

0090 Awl, Scratch
Elementary
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
6-inch.

0095 Awl, Stitching, Automatic
General Shop

0100 Balance, Beam
Woodworking: advanced
Triple-beam; accurate to one-hundredth of a gram.

0105 Ball Mill, Roller type
Ceramics: beginning, advanced
2 gal. size. To be bolted on stand or bench. Requires ¼ to 1/3 HP electric motor.

0110 Banding Wheel, Potter's Bench
Ceramics: beginning, advanced
Iron type—extra heavy cast iron wheels are machines with precision and perfectly balanced. Turntable marked with concentric circles. Ball bearing movement.

0115 Bar Folder
General Shop
Metalworking: beginning, advanced
30-inch, adjustable, counter-balanced.

0120 Bar, Pry
Auto and Power Mechanics: beginning, advanced
Alloy steel: rolling head; 12″ x 7/16″ diameter.

0125 Bar, Wrecking
Woodworking: beginning, advanced
Forged steel: hex stock; ¾″ x 24″L.

0130 Battery Eliminator and Charger
Auto and Power Mechanics: beginning, advanced
Up to 75 ampere output for 6 V fast charge; up to 50 ampere output for 12 V fast charge; protection against overload; air cooled by fan; ammeter with 2% accuracy on full deflection of scale; equipped with leads.

0135 Battery, Storage (6-volt)
Auto and Power Mechanics: beginning, advanced
Standard.

0140 Battery, Storage (12-volt)
Auto and Power Mechanics: beginning, advanced
Standard.

0145 Bellows, Molder's
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
8-inch; made of high grade sheepskin.

0150 Bench, Arc welding
General Shop
Metalworking: beginning, advanced
Plastics: advanced
Two station; with fire-proof curtain.
(Must conform to ASA standards)

0155 Bench, Bookbinding (unit)
Graphic Arts: beginning, advanced
Top 2″ thick of solid wooden core with plastic laminated surface, washable, durable, resistant to glues, stains, water; base of heavy guage steel, tension bolted for strength and rigidity; complete with one steel shelf and two stacking type steel drawers; 72″L x 34″W x 34″H.

0160 Bench, Demonstration
Graphic Arts: advanced
Woodworking: beginning, advanced
1¾″ x 28″ x 60″ laminated maple top, solid maple base, locking casters, peg board tool panels for hand tools, double door cabinet.

0165 Bench, Electric (with test panel)
General Shop
1¾″ x 30″ x 6′ top; includes AC voltmeter (0-5V, 0-50V, 0-300V), AC ammeter (0-1A, 0-5A, 0-25A), watthour meter, transformer, 120V

primary and 4-8-16-24V secondary; with fuse box, switches, receptacles, circuit breaker, bell and buzzer: Input 120 volt AC; 1 phase; 30 amps.

0170 Bench, Electric demonstration

Electricity-Electronics: advanced

Woodworking: advanced

6′ x 30″, w/cabinet storage under variable 0-120 volt AC and DC outlets.

0175 Bench, Elementary, Work

Elementary

Woodcraft type; 4-station; hardwood construction throughout; top approximately 36″ x 47″; recommended height: kindergarten—24″, primary—27″, intermediate (6, 7, 8, 9)—30″; with storage for 25-50 junior-sized general-craft hand tools; bench is available with following tool assortment:

1 bench brush
1 bit, dowel, ¼″
1 bit, dowel, ⅜″
1 bit, dowel, ½″
1 bit brace, 8″
2 "C" clamps, 2″
2 files, cabinet, 8″
1 file, round, 8″
1 hammer, nail, 10 oz.
1 hand drill, hollow handle
1 nail set
1 manual, instruction
1 plane, block
1 rule, bench, 12″
2 sanding blocks
2 saws, coping
1 saw, hand, 16″
2 sawbacks
1 screwdriver, 4″ x 3/16″ tip
1 try-square, 6″, all steel

0180 Bench, Gas welding

General shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

Two station style, with open space below tops, sturdy all steel construction, tops to be provided with framing to hold fire-brick (with fire-brick installed), back board on both sides of separating partition to be covered with durable asbestos boards, equipped with a preassembled manifold with valves and regulators.

0185 Bench Hook

Elementary

Wood, approximately ⅝″ x 5″ x 10″ with end cleats centered to permit right and left hand use. (Usually home-made.)

0190 Bench, Island, Double-face

Electricity-Electronics: beginning, advanced

6′ x 48″, with 12 steel lockers in base cabinet; top to be non-conducting pressed board, wood, or laminated plastic.

0195 Bench, Machine

Metalworking: beginning, advanced

Plastics: beginning, advanced

Hard maple top, approximately 2¼" x 40" x 96", height 32", storage for sheet metals under, one stake plate.

0200 **Bench, Marble slab**
Ceramics: beginning, advanced

0205 **Bench, Metalworking (2 place)**
General Shop
Top 60" x 40" x 2¼", laminated maple, height 32", angle iron edges, one shelf.

0210 **Bench, Metalworking (4 place)**
Auto and Power Mechanics; beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Top 2¼"T x 24"W x 7'L, laminated maple with 2" x 2" x ⅛" angle iron fitted flush to work surface on both edges, legs welded heavy gauge steel with floor feet, 21" top span and 30" high, one stringer on each side for bracing.

0212 **Bench, Molding**
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Steel construction; size approximately 30" x 60" x 32"H. Trough galvanized for damp sand storage; storage below for tools, etc.

0215 **Bench, Plaster**
Plastics: beginning, advanced
Stainless steel top approximately 26" x 96", stainless steel sink, area under for storage.

0220 **Bench, Saw**
Elementary
Versatile saw "trestle"; top approximately 13" x 24"; 18" high. Slot through center of bench to allow sawing with no crossbar or other interference.

0225 **Bench, Sheet metal (with stake plates)**
General Shop
Metalworking: beginning, advanced
Top 60" x 40", x 2¼", laminated maple, height 32", angle iron edges, 3 shelves, with 2 stake plates 30" x 8".

0230 **Bench, Soldering**
General Shop
Metalworking: beginning, advanced
Steel, transite covered top, 6' x 30"W x 32"H; steel storage cabinet below.

0235 **Bench, Spot welding**
Metalworking: beginning, advanced
All steel construction, 5' x 24" top; steel storage cabinet below.

0240 **Bench, TIB welding**

Metalworking: advanced

Two station style, with protective fire-proof curtain and curtain rack, all metal construction, tops provided with steel grating over a sheet of asbestos board, back boards on both sides of separating partition to be covered with durable asbestos board, open space to be provided below table tops for installation of power units.

0245 **Bench, Wall type**

General Shop

Top 100" x 24" x 2¼"T; laminated maple, height 32", 3 pairs legs, bolted construction, w/lower shelf; enclosed cabinet.

0250 **Bench, Woodworking (2 place)**

Woodworking: beginning, advanced

2¼" x 28½" x 64" edge-grain laminated hard maple top, bases of either wood or metal, containing double door cabinets, lockers, or drawers, base units 36"W x 21"D, overall bench height 33¼", supplied with 2 vises.

0255 **Bench, Woodworking (4 place)**

Ceramics: beginning, advanced

Elementary

General Shop

Plastics: beginning, advanced

Woodworking: beginning, advanced

2¼" x 54" x 64" edge-grain laminated hard maple top with angle steel splines, top mounted on two 36"W x 21"D x 31"H base units of either wood or metal, containing double door cabinets or lockers, equipped with 4 vises.

0260 **Bender, Universal**

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

On stand; capacity: radius 6" to 12", round mild steel bar ½", steel tubing 16 ga. ¾" O.D., flat steel bar (bent flat) ¼" x 1½"; including accessories for variety of common bends in flats, rounds, and tubing.

0265 **Bending Jig, Adjustable**

General Shop

Bending posts of machine steel, fixed-one hardened; to take metal up to 1"W and ½"T.

0270 **Beveler**

Elementary

For edges of leather.

0280 **Binding Unit, Plastics**

Graphic Arts: beginning, advanced

Hand operated punching machine and hand operated binding machine; both lightweight and portable; maximum punching and binding length 12″; ring binder capacity ¼″ to 2″ diameter.

0285 **Bit, Auger (set)**
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
Sizes 4 to 16; single thread screw.

0290 **Bit, Combination drill and countersink (set)**
Woodworking: beginning, advanced
Sizes: ¾″ x #6, #7, #8; 1″ x #6, #7, #8; 1¼″ x #8, #10; 1½″ x #8, #10, #12.

0295 **Bit, Combination drill and counterbore (set)**
Woodworking: beginning, advanced
Sizes: 1″ x #8, #10; 1¼″ x #8, #10; 1½″ x #10, #12.

Bit, Countersink (see: Countersink Bit (for brace) (set) #1065).

0300 **Bit, Electrician's**
General Shop
Woodworking: advanced
18″L x 5/16″ diameter.

0305 **Bit, Expansive**
Elementary
General Shop
Woodworking: beginning, advanced
Boring: from ⅞″ to 3″; square tang.

0310 **Bit, Extension**
Woodworking: beginning, advanced
18-inch.

0315 **Bit, Forstner (brace set)**
Woodworking: beginning, advanced
Sizes: 6, 8, 10, 12, 14, 16 (in 16ths of an inch).

0320 **Bit, Forstner (machine set)**
General Shop
Woodworking
½-inch shank; sizes: 6, 8, 10, 12, 14, 16 (in 16ths of an inch).

0325 **Bit, Multi-spur (set)**
Woodworking: beginning, advanced
Set of 11; sizes: ½″ to 1″ by 16ths plus 1⅛″ and 1¼″.

0330 Bit, Plug cutter (set)
General Shop
Woodworking: beginning, advanced
Set of 5, sizes: ⅜", ½", ⅝", ¾", 1".

0335 Bit, Screwdriver (set)
Electricity-Electronics: beginning, advanced
General Shop
Square tang; for use with brace; ¼", 5/16", ⅜", ½".

0340 Bit, Speed (set)
Electricity-Electronics: beginning, advanced
Sizes: ¼", ⅜", ½", ⅝", ¾", 1".

0345 Bit, Twist, Car
Woodworking: beginning, advanced
⅜" x 18" with square tang.

0350 Bleeder, Brake
Auto and Power Mechanics: beginning, advanced
Lightweight pressure tank; capacity 1 gallon; pressure dial 0-60 lbs.; safety valve set for 40 lb. release; means of checking fluid level visibly; fluid shut-off valve on hose; sediment screen; with adapters to accommodate all makes of cars and light trucks.

0360 Block, Proofing
Graphic Arts: beginning, advanced
3¼" x 8" x 2½"; maple wood; varnished; leather top faced with easily replaced thick felt.

0365 Block, Sanding
Woodworking: beginning, advanced
Rubber, to use 2¾" x 9" paper.

0370 Blow Torch
Elementary
Portable propane torch with pencil burner and replaceable cylinder.

0375 Blunger
Ceramics: beginning, advanced
For casting and forming; ¼ HP; smaller size adequate for school or studio.

0380 Board, Cutting
Elementary
Maple; approximately ¾" x 8" x 10"; for leather.

0385 Board, Drafting
Drafting: beginning, advanced
General Shop
Seasoned basswood, zinc-plated steel end cleats, both front and back

sanded smooth to provide two drafting surfaces, sizes optional, recommend 18″ x 24″ for beginning, either 24″ x 36″ or 31″ x 42″ for advanced, all boards ¾″ thick.

0390 **Boards, Pressing**

Graphic Arts: beginning, advanced

¾″ x 9″ x 12″; hard maple; glued narrow strip construction to prevent warping; smooth finish; metal bindings fastened with screws.

0395 **Body-Fender Tools (set)**

Auto and Power Mechanics: beginning, advanced

Toe dolly; heel dolly; general purpose dolly; anvil dolly; 26½″L body pick with slight curve sharp point; 31″L body pick with curve and point at right angles to shaft; hammers: reverse curve light bumping, wide face shrinking, picking and dinging, pick; vixen files: flat, half round, curved round, curved flat.

0400 **Bone Folder**

General Shop

Graphic Arts: beginning, advanced

1″W x 8″L; one pointed end; made of genuine bone; polished.

0405 **Bookcase**

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Plastics: beginning, advanced
Metalworking: beginning, advanced
Woodworking: beginning, advanced

Approximately 60″ high, 10″ to 12″ deep, 72″ long; closed back shelving with 3 shelves adjustable by increments of ½″, wood or metal; open.

Graphic Arts: Steel safety cabinet with sliding tambour doors; 3 adjustable shelves; lock and key; dustproof; 30 ½″W x 37½″H x 17″D.

0410 **Borders, Decorations, Miscellaneous**

General Shop

Type high.

0415 **Boring Bar (set)**

Metalworking: advanced

Set of 3 bars, ⅜″, ½″, ¾″ dia. bars with 90°, 45°, and 30° end caps.

0420 **Boring Bar (cylinder set)**

Auto and Power Mechanics: advanced

Capacity 2.600″-5.250″ to depth of 14″ cutting at speed of 1¾″ per minute; ¼ HP, 3 Amp. 115V motor; with accessories.

0425 **Box, Clay Storage, Portable**
Ceramics: beginning, advanced
General shop
Metal lined for storage of damp materials; with casters.

0430 **Brace, Ratchet**
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
10-inch; box ratchet; universal jaws; ball bearing head.

0435 **Bracket, Saw horse (pair)**
Woodworking: beginning, advanced
Steel; for 2″ x 4″ lumber.

0440 **Brad Driver**
Elementary
Automatic; self-centering.

0445 **Brake Adjusting Tool (Spoons) (set)**
Auto and Power Mechanics: beginning, advanced
1 Bendix 8″L; 1 Chevrolet adjusting tool 5¼″L; 1 Brake adjusting tool 8¼″L.

0450 **Brake, Box and pan**
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
24-inch, capacity 16 ga., depth of box 3″, adjustable angles 0° to 135°.

0455 **Brake, Service shop machine**
Auto and Power Mechanics: advanced
Mobile; 1 brake drum lathe with ½ HP motor, and all standard accessories, including adapters for all passenger cars and light trucks; mobile bench with accessory storage board; brake shoe grinder with 1/3 HP motor and all standard accessories; universal brake drum micrometer; brake surface cylinder hone; brake shoe grinding clamp.

0460 **Brayer, Block printing**
Elementary
Graphic Arts: beginning, advanced
4-inch width.

0465 Broom, Push
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
18-inch length; 3-inch trim; with handle.

0470 Brush, Bench
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
8-inch brush, 13″ overall.

0475 Brush, Bookbinder's
Graphic Arts: beginning, advanced
1″ or 1½″ diameter; round; grey elastic bristles copper bound and vulcanizer in rubber.

0480 Brush, Duster, Draftsman's
Drafting: advanced
General Shop
2½-inch white bristles, staple set in hardwood, 5″ handle, 13″ overall length, flat beveled style.

0485 Brush, Flat padding
Graphic Arts: beginning, advanced
1½″W; nickel plater ferrule vulcanized in rubber; black bristle.

0490 Brush, Opaque
Graphic Arts: beginning, advanced
Sizes 00 and 1; camel hair; needle sharp; extra stiff; narrow.

0495 Brush, Type
Graphic Arts: advanced
Approximate size 2½″ x 5″; hardwood oval back; stiff hair bristles.

0500 Brush, Wire

Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Overall length: 10″-14″, width 1″ wire length approximately 1-3/16″.

0505 Buffer, Long arm

Metalworking: advanced
Long arm on pedestal, 33″ between wheels, ⅝″ arbor; motor: ¾ HP, 3450 RPM, 220V, 3 phase, 600 cycles; magnetic starter.

0510 Buffer, Pedestal

Elementary
General Shop
Metalworking: beginning
Plastics: beginning, advanced
2-6″ x 1″ muslin wheels, wide celarance design; motor: 1/3 HP, 1725 RPM, 115V, single phase, 60 cycle; manual starter with overload protection.
Plastics: Add: built-in dust collector with filters and dust bag, illumination over wheels.

0515 Bulb, Sponge

General Shop
Metalworking: beginning, advanced
8 oz., rubber bulb, camel hair brush.

0520 Burnisher

Elementary
General Shop
Woodworking: beginning, advanced
Round, tempered steel, 4½″ blade.

0525 Cabinet, Damp-proof

Ceramics: beginning, advanced
General Shop
Base type; keeps clay MOIST AND WORKABLE. Double-wall type door. Interior of tempered zinc panels. Doors close against molded rubber gasket. Size 18″D x 36″L x 31″H.

0530 Cabinet, Drying

Ceramics: beginning, advanced
General Shop
Base type; constructed of steel and expanded metal. Has interior shelf. 18″D x 36″L x 31″H. Low heat supply with air exhaust. Baked enamel finish.

0535 Cabinet, Drying rack

Graphic Arts: beginning, advanced

Steel construction with reinforced top; 4 legs; open sides; to include 14 drying racks 20" x 28½" x 1⅛"; racks removable from table; inter-locking side rails to prevent shifting; floor space 25" x 30"; height 40".

0540 Cabinet, Filing

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

Four drawer, full cradle suspension, full plunger lock, aluminum hardware, size 52"H x 15"W x 28½"D.

0542 Cabinet, Finishing (storage)

General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

All steel construction; adjustable shelves; 2 doors with locks.

0545 Cabinet, Film cutter

Graphic Arts: advanced

Steel construction; light tight; 4 drawers; large storage area near bottom; to accommodate 20" x 24" film; 24" trimmer mounted on top of cabinet; side shelf mounted on right side; floor dimensions 36" x 25".

0550 Cabinet, Galley

Graphic Arts: beginning, advanced

Heavy gauge steel; welded unit construction; galley runs of steel with smooth finish and providing ample clearance for easy movement of galleys; hard baked enamel finish; galleys capacity 50; galley size 8¾" x 13" or 10" x 16".

0555 Cabinet, Glaze and library

Ceramics: beginning, advanced

For filing sample glazes, reference manuals and catalogs. With 10 removable compartments. 12"D x 36"W x 13½"H. With shelf 22"H. Compartment 3" x 9" x 11".

0560 Cabinet, Ink and roller

Graphic Arts: beginning, advanced

30"W x 25"D x 40"H; steel construction; top of heavy steel; drawer at top divided into 3 equal sections, one to include a 10″ x 12″ ink mixing slab; 2 hinged doors with locks below the drawer; left section contains 3 vertical slides, each of which can hold 6 rollers, maximum 24″L; right section contains 3 large ink shelves and a rag bin.

0565 Cabinet, Instrument storage
Electricity-Electronics: beginning, advanced
30″W x 18″D x 72″H w/adjustable shelves and lock.

0570 Cabinet, Mechanics, Roller
General Shop
27¼″ x 18¼″ x 32″H, with 3 drawers and storage compartment.

0575 Cabinet, Machine accessory
Woodworking: beginning, advanced
2¼″ x 22″ x 54″ edge-grain laminated hard maple top; base of either wood or metal, containing eight drawers; base size 36″W x 21″D x 31″H.

0580 Cabinet, Nail and screw storage
Woodworking: beginning, advanced
22½″ high; 48 see-through plastic drawers; drawer size 2¾″W x 1-7/16″D x 5⅞″L.

0585 Cabinet, Paper and drawing storage
General Shop
Hardwood, 84″ x 48″ x 24″, adjustable shelves, w/lock.

0590 Cabinet, Parts storage
Electricity-Electronics: beginning, advanced
Plastics: beginning, advanced
Metal, individual drawers approximately 5¼″ x 2¾″ x 11⅜″, approximately 100 drawers.

0595 Cabinet, Plate filing
Graphic Arts: beginning, advanced
14″W x 24″D x 25½″H; steel construction; dustproof; mounted on 4 ball bearing steel wheels; swivel style; must accommodate hanger-envelopes, clip style hangers and hook style hangers; storage capacity: 150—10″ x 14″ press plates and negatives, 75—11″ x 17″, 14″ x 17″, 14″ x 20″ press plates and negatives; to include hanger-envelopes, clip-hangers, hook-hangers.

0600 Cabinet, Proof press
General Shop
Metal, 36″ x 24″ x 50″H.

0605 Cabinet, Quarter case
Graphic Arts: beginning, advanced
10¾″W x 18¼″D x 38¼″H; steel construction; capacity for 20 quarter size cases; furnished with 12 assorted cases: 2 rule cases,

2 space and quad cases, 2 handy pack cases, 2 figure cases, 2 small cap font cases, 2 figure and fraction cases.

0610 Cabinet, Sheet plastics storage

Plastics: beginning, advanced

Metal; vertical dividers providing 12 bins, each approx. 4″W x 24″D x 36″H; door w/lock.

0615 Cabinet, Small parts

Metalworking: beginning, advanced

Steel; 36″W x 12″D x 73″H; one bin 36″W x 12″D x 11″H; three bins 12″W x 12″D x 12″H; six bins 6″W x 12″D x 12″H; one 24 drawer unit, each drawer 5¼″W x 11″D x 1⅜″H; two 18 drawer units, each drawer 5¼″W x 11″D x 2⅝″H w/two adj. dividers per drawer; 18 box drawers 8¼″W x 11″D x 4⅝″H w/one adj. divider per drawer; double doors w/lock.

0620 Cabinet, Storage

Drafting: beginning, advanced

Elementary

Graphic Arts: beginning, advanced

Metalworking: beginning, advanced

Plastics: beginning, advanced

Woodworking: beginning, advanced

Drafting: 2-door; overall size 36″ x 24″ x 78″; one piece welded frame construction, w/four shelves, adjustable on 2″ centers; three point locking device, chrome door handles and full, flush sanitary base.

Elementary: Steel construction, double swing-type doors, movable shelves, approx. 36″ x 78″ x 24″D.

Graphic Arts: 76″H x 36″W x 18½″D; heavy steel construction; lock and key provided; 2 swinging doors; 4 adjustable shelves.

Metalworking: Steel; 36″W x 18″D x 78″H; swinging double door style; 4 adj. shelves; three point locking device and lock; flush base.

Plastics: Metal; combination of bins and shelves; doors w/locks; approx. size 36″ x 12″ x 84″.

Woodworking: 32″W x 22″D x 84″H; 4 full-width shelves 29″W x 19″D, adjustable; wood or metal construction.

0625 Cabinet, Tool storage

Electricity-Electronics: beginning, advanced

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

Woodworking: beginning, advanced

Approx. 62″W x 22″D x 84″H; constructed of heavy maple framing and birch plywood panels; doors 1⅛″ thick; locks and hardware heavy duty; upper section and doors form panels for tools, lower section for storage; with tote trays and/or adjustable shelves, with doors and locks.

0630 Cabinet, Type, Double tier
General Shop
72″ x 37¾″, height of sloping back 40½″; lead and slug rack, w/44 type cases.

0635 Cabinet, Type, Single tier
Graphic Arts: beginning, advanced
Steel construction; school type; steel working top sloping front and back; 22 case body includes 1 steel front blank case, 2 steel front wells job cases, 19 steel front California job cases; includes a lead and slug rack, galley and quarter case unit; locking device for cases; floor space 32¼″ x 42½″; height to work surface 41″; overall 46″H; work area each side 32¼″ x 17″.

0640 Caliper, Hermaphrodite
Auto and Power Mechanics: advanced
Metalworking: beginning, advanced
6″ length; lock joint, w/adjustable point.

0645 Caliper, Inside (6″)
Auto and Power Mechanics: beginning, advanced
Drafting: advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Solid nut; bow spring.

0650 Caliper, Inside (8″)
General Shop
Solid nut; bow spring.

0655 Caliper, Outside (6″)
Auto and Power Mechanics: beginning, advanced
Drafting: advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Solid nut; bow spring.

0660 Caliper, Outside (8″)
General Shop
Metalworking: advanced
Solid nut; bow spring.

0665 Caliper, Vernier
Auto and Power Mechanics: advanced
Metalworking: advanced
5″ capacity readable in thousandths with vernier. Inside and outside jaws and depth gauge, locking device and friction roller.

0670 Camera, Copying

Graphic Arts: advanced

Horizontal, dark room type, process camera; all metal, primarily of aluminum castings, construction; focusing accomplished by means of accurate scales; vacuum film holder, hinged to camera; ground glass, hinged to camera; electric timer and control panel to control the solenoid shutter and the camera lamps; lens, color corrected, multi-element, enlargement 2 times, reduction 5 times, anastigmat; copyboard, glass covered frame, equipped to take irregular copy thickness; lamps, 4 incandescent 1500 watt bulbs; flash lamp, attached for flashing through the lens; maximum film size 16" x 20"; single phase, 110 V, AC, 60 cycle.

0675 Camera, Range finder (35mm)

Graphic Arts: beginning, advanced

Includes single-window range and viewfinder with life-size image; f/2.8 lens; speed 1 second to 1/1000th and B; one stroke film advance and shutter-wind lever; automatic flash synchronization for both conventional flash bulbs and electronic flash; built-in self timer (up to 10 seconds delay); shutter-coupled exposure meter; flash unit; gadget bag for camera and accessories.

0680 Camera, Reflex, Single lens (35mm)

Graphic Arts: beginning, advanced

Pentaprism viewfinder; multi-split range finder; 50mm f 1.9 fully automatic lens; rapid rewind crank; rapid film winding lever; exposure counter; shutter speed of 1 second to 1/1000 second and bulb; easy lens removal; flash unit (conventional); extension tubes for close-up work; wide angle lens; telephoto lens.

0685 Camera, Reflex, Twin lens

Graphic Arts: beginning, advanced

Interchangeable lenses, equipped with 105mm f 3.5 normal focus lens, 65mm f 3.5 wide angle lens, and 180mm f 4.5 telephoto lens; 1 second to 1/500th lens speed; rapid-wind crank which prevents accidental double exposures, but does permit when desired; removable viewing hood which interchanges with eyelevel finders; cable release socket; standard flash; gadget bag for camera and accessories.

Can, Benzene (see: Container, Benzene #1045)

0690 Can, Carwash

Auto and Power Mechanics: advanced

3 gallon; galvanized pail.

0695 Can, Oil filler and measure (1 qt.)

Auto and Power Mechanics: beginning, advanced

Copper plated steel construction.

0700 Can, Oil filler and measure (2 qt.)

Auto and Power Mechanics: beginning, advanced

Copper plated steel construction.

0705 **Can, Oil filler and measure (5 qt.)**
Auto and Power Mechanics: beginning, advanced
Copper plated steel construction.

0710 **Can, Oily waste**
Auto and Power Mechanics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
10 gal. capacity; Underwriter's Laboratory approved; foot opening, automatic closing.

0715 **Can, Radiator**
Auto and Power Mechanics: advanced
2 gallon capacity; plastic; curved spout.

0720 **Can, Safety (1 qt.)**
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Metal: one qt. capacity; spout w/safety spring hand lever to open; with safety screen in nozzle.

0725 **Can, Safety (1 gal.)**
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Metal; one gal. capacity; spout w/safety spring hand lever to open; with safety screen in nozzle.

0728 **Can, Safety (5 gal.)**
Metal, five gallon capacity; spout with safety spring hand lever to open; with safety screen in nozzle.

0730 **Capacitor Substitution Box**
Electricity-Electronics: beginning, advanced
100 mmf. to .111 mfd.; 350 WVDC.

0735 Carburetor Repair Set

Auto and Power Mechanics: advanced

Cleaning tank; cleaning solvent; tools in sets according to brand of carburetor.

0740 Cards, Alphabet (set)

Graphic Arts: beginning, advanced

Sturdy tracing cards to show complete alphabet characters of display type; sizes 12 to 72 point; approximately 125 cards with about 75 popular type faces; each card shows complete upper and lower case alphabets, including figures and punctuation marks; printed both sides on durable bristol; round cornered; set includes wooden box with hinged top to hold complete set.

0745 Cart, Stock

Elementary

Metal construction; approx. 36"L x 24"W x 32"H; equipped with 5" rubber wheeled casters, 2 swivel, 2 stationary.

0750 Cart, Tool

Elementary

Mobile cart to be moved from classroom to classroom. Designed to accommodate 20 students. Provision for nails, screws, fasteners, and miscellaneous supplies plus the following tools, which are "junior sized" whenever possible:

8 auger bits
4 back saws
2 braces
16 4" "C" clamps
12 coping saws with blades
8 crosscut saws
1 countersink
2 dividers
7 assorted files
2 file cards
6 hammers
2 hand drills
3 keyhole saws
2 nail sets
6 jack planes
6 block planes
1 combination pliers
1 side cutting pliers
1 hand rip saw
6 wooden rules
1 scratch awl
3 screwdrivers
2 pr. scissors
4 combination squares
4 try squares
6 serrated files with extra blades
6 portable vises

Carving Tools (see: Chisel, Carving #0775)

Ceramic Molding Tool (see: Modeling Tool #2705)

0755 Chair, Teacher's

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary

General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Welded-steel construction; swivel base w/casters.

Charger, Battery (see: Battery Eliminator and Charger #0130)

0760 Chases, Platen
General Shop
Graphic Arts: beginning, advanced
Cast iron; size to fit platen press; handle-type recommended.

0765 Chisel, Butt (set)
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
3″ blade; plastic handles; sizes: ¼″, ½″, ¾″, 1″, 1¼″, 1½″.

0770 Chisel, Cape
General Shop
Metalworking: beginning, advanced
½″ stock, ¼″ cutting edge.

0775 Chisel, Carving (set)
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
Set of 6 chisels and gouges; for light wood and linoleum carving; approx. 6″ long.

0780 Chisel, Cold (set)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Cutting edges of ¼″, ⅜″, ½″, ¾″.

0785 Chisel, Diamond point (set)
Metalworking: beginning, advanced
¼″, ⅜″, ½″ bits.

0790 Chisel, Gouge, Inside (set)
General Shop

Woodworking: beginning, advanced
Sizes: ¼", ⅜", ½", ¾", 1".

0795 Chisel, Gouge, Outside (set)
Woodworking: beginning, advanced
Set of 5; sizes ¼", ⅜", ½", ¾", 1".

0800 Chisel, Round nose (set)
Metalworking: beginning, advanced
¼", ⅜" bits.

0805 Chisel, Socket firmer (set)
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
Set of 6; sizes ¼", ⅜", ½", ⅝", ¾", 1".

0810 Chisel, Thonging (4-prong)
Elementary
⅛"; tempered spring steel blades; chrome plated; hand ground cutting edges.

0815 Chisel, Thonging (3-prong)
Elementary
⅛"; tempered spring steel blades; chrome plated; hand ground cutting edges.

0820 Chisel, Thonging (single-prong)
Elementary
⅛"; tempered spring steel blades; chrome plated; hand ground cutting edges.

0825 Chisel, Thonging (single-prong)
Elementary
3/32"; tempered spring steel blades; chrome plated; hand ground cutting edges.

0830 Chisel, Thonging (set)
General Shop
1, 2, 3, and 4 prong; sizes: 3/32" and ⅛"; tempered spring steel blades; chrome plated; hand ground cutting edges.

0835 Chisel, Wood turning (set)
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
Hardwood handles w/metal ferrules and overall length of at least 17"; basic set of 8 to include 1 each: 1" skew chisel, 1" gauge, ½" skew chisel, ⅝" gauge, ½" round nose, ⅜" gauge, ½" spear point, ½" parting tool; optional: ½" diamond point chisel, ½" left skew

chisel, 1/2" right skew chisel, 1/4" round nose chisel, 1/4" diamond nose chisel, 1/4" square chisel.

0840 **Chuck, Magnetic**
Metalworking: advanced
Permanent ceramic; 4" x 8 1/2" work surface.

0845 **Circle Cutter**
Plastics: beginning, advanced
Woodworking: beginning, advanced
Heavy duty; 1/2" round shank; capacity 1" to 8" dia.; six extra tool bits.

0850 **Clamp, Bar (36")**
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
I-bar with solid handle.

0855 **Clamp, Bar (48")**
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
I-bar with solid handle.

0860 **Clamp, Bar (60")**
General Shop
I-bar with solid handle.

0865 **Clamp, "C" (2")**
Elementary
Steel screw; malleable iron clamp.

0870 **Clamp, "C" (3")**
Elementary
General Shop
Woodworking: beginning, advanced
Steel screw; malleable iron clamp.

0875 **Clamp, "C" (4")**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
Steel screw; malleable iron clamp.

0880 **Clamp, "C" (6")**
Auto and Power Mechanics: beginning, advanced
General Shop

Metalworking: beginning, advanced
Woodworking: beginning, advanced
Steel screw; malleable iron clamp.

0885 Clamp, "C" (8″)
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
Steel screw; malleable iron clamp.

0890 Clamp, "C" (10″)
Auto and Power Mechanics: beginning, advanced
Metalworking: advanced
Steel screw; malleable iron clamp.

0895 Clamp, "C" (12″)
Metalworking: beginning, advanced
Steel screw; malleable iron clamp.

0900 Clamp, Corner
Woodworking: beginning, advanced
3″ capacity.

0905 Clamp, Fixture (set)
Woodworking: beginning, advanced
For use with ¾″ pipe.

0910 Clamp, Handscrew (#3/o)
General Shop
Woodworking: beginning, advanced
Hardwood; jaws open 3″, length 6″.

0915 Clamp, Handscrew (#0)
General Shop
Woodworking: beginning, advanced
Hardwood; jaws open 4½″, length 8″.

0920 Clamp, Handscrew (#1)
General Shop
Woodworking: beginning, advanced
Hardwood; jaws open 6″, length 10″.

0925 Clamp, Handscrew (#2)
General Shop
Woodworking: beginning, advanced
Hardwood; jaws open 8½″, length 12″.

0930 Clamp, Handscrew (#3)
General Shop

Woodworking: beginning, advanced
Hardwood; jaws open 10″, length 14″.

0935 Clamp, Mitre frame
Woodworking: beginning, advanced
With 4 extension rods to give max. capacity of 25″ x 24″.

0940 Clamp, Spring (#2)
Elementary
General Shop
Heavy gauge steel; jaws open 2″.

0945 Clamp, Spring (#3)
Plastics: beginning, advanced
Heavy gauge steel; jaws open 3″.

0950 Cleaner, Ring groove
Auto and Power Mechanics: beginning, advanced
To remove carbon from ring grooves without injury to piston; to service all pistons with 5/64, 3/32, ⅛, or 3/16 ring grooves; piston range 2½″-5″.

0955 Cleaner, Spark plug
Auto and Power Mechanics: beginning, advanced
Spark indicator test dial; set of rubber cleaner adapters; needle valve for control of air tester; rubber covered high tension wire and clip; double filter cleaner bag; automatic air line vapor trap.

0960 Cleaner, Valve guide
Auto and Power Mechanics: advanced
Wire brush; twisted wire shank; 5/16″, 11/32″, ⅜″, 7/16″ diameters.

0965 Clutch Aligner (set)
Auto and Power Mechanics: advanced
Locks onto pilot bearing and leaves operator's hands free.

0970 Coil Winder
Electricity-Electronics: beginning, advanced
Capacity 22 to 40 gals.; wire with turns checker.

0975 Compass and Divider (set)
Drafting: beginning, advanced
General Shop
Includes large 6½″, rapid action, bow compass with lengthening bar to draw circles up to 11″ diameter; 6″, hairspring, friction-head divider with straightening device; both instruments to be flat type, nickel-silver, chrome plated.

0980 Compass, Beam
Drafting: beginning, advanced

24″; nickel-silver; chrome plated; with appropriate bars; coupler; micrometer adjustment needle center; pencil and pen needle point.

0985 Compass, Chalkboard

Drafting: beginning, advanced

General Shop

16″ minimum length; metal or wood; friction joint; elbows; rubber tip; collet lock for chalk and tip.

0990 Compass, Drop bow

Drafting: advanced

4″ drop bow compass; with interchangeable pen and pen points; German silver with tempered stainless steel needle point.

0995 Compass, Pencil

Elementary

General Shop

Woodworking: beginning, advanced

With or without graduated protractor.

1000 Composing Stick (6″)

General Shop

Graphic Arts: beginning, advanced

Two piece stick equipped with a smooth finish knee; sets to picas and nonpareils; 4 teeth on the knee fiit into rectangular slots in the rear wall of the body; 2″W; 6″L; graduated to 22 picas.

1005 Composing Stick (10″)

General Shop

Graphic Arts: beginning, advanced

Two piece stick equipped with a smooth finish knee; sets to picas and nonpareils; 4 teeth on the knee fit into rectangular slots in the rear wall of the body; 2″W, 10″L; graduated to 46 picas.

1010 Composing Stick (12″)

Graphic Arts: beginning, advanced

Two piece stick equipped with a smooth finish knee; sets to picas and nonpareils; 4 teeth on the knee fit into rectangular slots in the rear wall of the body; 2″W, 12″L; graduated to 58 picas.

1015 Composing Stick (15″)

Graphic Arts: beginning, advanced

Two piece stick equipped with a smooth finish knee; sets to picas and nonpareils; 4 teeth on the knee fit into rectangular slots in the rear wall of the body; 2″W, 15″L; graduated to 73 picas.

1020 Composing Stick, Micrometer knee (10″)

Graphic Arts: beginning, advanced

Two piece stick with a smooth finish knee; micrometer screw for instant setting to picas, nonpareils, and fractions of a point; 2″W, 10″L; graduated to 46 picas.

1025 Compressor, Air

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Woodworking: beginning, advanced

120 p.s.i.; 1 stage; tank mounted; 1½ HP, 3-phase, 208V motor; 60 gallon tank; safety valve; drain cock; automatic pressure control; beltguard; pressure gauge; 4.5 cu. ft. per min. delivered output at rated pressure.

(Note: This compressor not suitable for operating automotive hoist.)

1030 Compressor, Piston ring (set)

Auto and Power Mechanics: beginning, advanced
General Shop

Capacity 1⅜" to 7"; bands of high spring steel; self locking heavy duty ratchet pawl; double friction brake adjustment.

1035 Compressor, Valve spring

Auto and Power Mechanics: beginning, advanced
General Shop

Valve spring lifter; parallel jaws; scissor action; upper and lower jaws adjustable; heavy duty construction; lock to hold positively at any height;

or: Clamp type valve lifter; universal type for ⅞" to 2½" spring diameters; with accessories (jaw extensions, etc.); for use on cars, trucks; L-head and valve-in-head engines; heavy duty.

Container, Benzene (1 quart) (see: Can, Safety—0720)

Container, Benzene (1 gallon) (see: Can, Safety—0725)

Container, Benzene (5 gallon) (see: Can, Safety—0728)

1060 Container, Plaster

Plastics: beginning, advanced

100 lb. capacity; metal or plastic, with covers.

1065 Countersink Bit (for brace) (set)

Elementary
General Shop
Metalworking: beginning
Plastics: beginning, advanced
Woodworking: beginning, advanced

Sizes: ⅝" and ¾".

1070 Countersink, High speed

Electricity-Electronics: beginning, advanced

General Shop
Metalworking: beginning
Woodworking: beginning, advanced
1/4" shank; 1/2" size.

1075 **Crane, Portable**
Auto and Power Mechanics: advanced
2 ton capacity; hydraulic; double action pump; adjustable, 3 position beam; with chain and hook.

1080 **Creaser, Adjustable edge**
General Shop
Hardwood handle; width of crease regulated by thumb screw.

1085 **Creeper**
Auto and Power Mechanics: beginning, advanced
Padded headrest; 3 1/4" angle axle casters; 16"W x 36"L.

1090 **Crimping Tool**
Electricity-Electronics: beginning, advanced
Crimps various solderless wire terminals. Available with wire cutters and strippers combined. Shears machine screws without damage to threads.

1095 **Crucible (#4)**
Metalworking: beginning, advanced
Silicon carbide.

1100 **Crucible (#10)**
Metalworking: beginning, advanced
Silicon carbide.

1110 **Crucible Hand Shank (#10)**
Metalworking: beginning, advanced
One-man; for #10 crucible.

1112 **Crucible Hand Shank (#4)**
Metalworking: beginning, advanced
One-man; for #4 crucible.

1115 **Crucible Lifter**
Metalworking: beginning, advanced
Two-man; #1 for #8, #10, #12 crucible.

1120 **Crucible Ring Shank**
Metalworking: beginning, advanced
Two-man; for #8, #10, #12 crucible.

1125 **Crusher, Jaw (laboratory model)**
Ceramics: advanced

1130 **Curve, Irregular (set)**
Drafting: beginning, advanced
General Shop
Transparent, professional quality, non-discoloring plastic irregular curve set; 8 curves; .060 thick; sizes 8, 10, 12, 13, 15, 16, 18, 20.

1135 **Curve, Rule (adjustable)**
Drafting: advanced
Adjustable curve rule with square lead-bar sliding between steel ribbons; parts covered with rubber with rounded ruling edges; will bend to 1½″ circle and larger; 31″ in length.

1140 **Cutter, Bolt**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Minimum 14″; ⅜″ soft bolt capacity; cutting jaws hardened steel, replaceable.

1145 **Cutter, Bushing**
Auto and Power Mechanics: advanced
For splitting soft metal bushings; 7/16″ x 3/16″ bit; ½″ stock; 7″ long chip curler to push metal away from work.

1150 **Cutter, Glass**
Elementary
General Shop
Woodworking: beginning, advanced

1155 **Cutter, Lead and slug**
General Shop
Graphic Arts: beginning, advanced
Settings from a nonpareil to 106 picas; self locking gauge.

1160 **Cutter, Linoleum (set)**
Elementary
General Shop
Graphic Arts: beginning, advanced
Push-type cutters; set of 5 assorted cutters and handle.

1165 **Cutter, Linoleum (set)**
Elementary
Pull-type cutters; set of 5 assorted cutters and handle.

1170 **Cutter, Milling Machine, End (set)**
Metalworking: advanced
High speed steel; actual type and size to be specified according to need and machine size.

1175 **Cutter, Milling Machine, Gear tooth, Involute (set)**

Metalworking: advanced

High speed; diametral pitch and number of cutter forms to be specified according to need.

1180 **Cutter, Milling Machine, Helical, Plain**

Metalworking: advanced

High speed steel; diameter, width of face and arbor hole to be specified according to need.

1185 **Cutter, Milling Machine, Shell and arbor**

Metalworking: advanced

High speed steel; actual sizes and types to be specified according to need and machine size.

1190 **Cutter, Milling Machine, Slitting saw**

Metalworking: advanced

High speed steel; diameter, thickness, arbor hole and number of teeth to be specified according to need.

1195 **Cutter, Muffler**

Auto and Power Mechanics: advanced

Adjustable 1½″ to 2½″; 4 cutting wheels; threaded shaft adjustment.

1200 **Cutter, Paper**

Drafting: beginning, advanced

General Shop

Graphic Arts: beginning, advanced

24″; scoring every ½ inch on hardwood surface; top and bottom scale; removable, self-sharpening blade of hardened tool steel; slide guide; safety spring to prevent handle from flying up or dropping.

1205 **Cutter, Pipe**

Auto and Power Mechanics: advanced

Metalworking: advanced

Capacity ⅛″ to 1″ diameter; 2 rollers; reamer blade; replaceable cutter blade.

Cutter, Plug (see: Bit, Plug cutter (set) #0330)

1210 **Cutter, Round corner**

Graphic Arts: beginning, advanced

Pedestal model; foot operated; 2½″ capacity; adjustable 45° angle gauge; includes 1 each #2, #1, #0, #00 knives.

1215 **Cutter, Sprue**

Metalworking: beginning, advanced

¾″ x 10″.

1220 **Cutter, Tubing**

Auto and Power Mechanics: beginning, advanced
General Shop
⅛″ to 1″ capacity.

1225 **Cutting-Off Tool, Lathe**

Metalworking: beginning, advanced
Straight shank; with beveled cutter and wrench.

1230 **Densitometer, Photo**

Graphic Arts: advanced
Logarithmic scale meter; blue probe; set of 5 measuring apertures; 110V.

1235 **Desk, Teacher's**

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Approximately 42″ x 30″ x 29″H; welded steel construction; single pedestal with file drawer and tool drawer both lockable. Top drawer extends across front and is reference drawer approximately 24″ x 36″ x 2⅜″ deep. Desk top can be heavy duty linoleum with stainless steel or aluminum edging or can be laminated plastic with laminated plastic edging.

1240 **Desk, Teacher's standing**

Drafting: beginning, advanced
Approximately 36″ x 26″ x 42″H at front, 53″H at back; welded steel construction; pigeonhole back; locking drawer at front; (use with instructor's stool #4610).

1245 **Die, Dapping**

Metalworking: beginning, advanced
2½″ cube; 21 spheres 3/16″ to 2-3/16″.

1250 **Die, Letter (set)**

Auto and Power Mechanics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced

Metalworking: beginning, advanced
Woodworking: beginning, advanced
For hard surfaces; 3/16″ character height.

1255 **Die, Number (set)**
Auto and Power Mechanics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Woodworking: beginning, advanced
For hard surfaces; 3/16″ character height.

Dispenser, Automatic transmission oil (see: Funnel, Longspout, Automatic transmission #1670)

1260 **Dispenser, Cellophane tape**
Graphic Arts: beginning, advanced
Heavy duty; 72 yard roll capacity.

1265 **Dispenser, Drafting tape**
Drafting: beginning, advanced
For both portable and stationary application; cuts all kinds and widths of tape rolls up to 1½″; fits both 3″ and 1″ cores; holds rolls up to 7¾″O.D.

1270 **Dispenser, Gummed paper**
Graphic Arts: beginning, advanced
Automatic moistener; dispenses ½″ to 1½″ tape; rustproof construction.

1275 **Display Board**
Drafting: beginning, advanced
Aluminum frame: adjustable; chart hangers at top; cork composition; 48″W x 48″ to 96″L with 96″L preferred if space permits.

1280 **Divider, Blackboard**
Drafting: beginning, advanced
Hardwood.

1285 **Divider, Proportional**
Drafting: advanced
7½″ or larger; direct reading for lines in ratios from 3:4 to 1:10 and for circles in ratios from 4 to 20; German silver.

1290 **Divider Spring (4″)**
Metalworking: advanced
Solid nut; Yankee pattern.

1295 **Divider Spring (6″)**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Solid nut.

1300 **Divider Spring (8″)**
General Shop
Metalworking: advanced
Solid nut.

1305 **Divider, Wing**
Electricity-Electronics: beginning, advanced
Elementary
Woodworking: beginning, advanced
6″; steel; polished brass joints.

1310 **Dolly, Body (set)**
Auto and Power Mechanics: advanced

1317 **Dowel Centers (pairs) (set)**
Woodworking: beginning, advanced
¼″, 5/16″, ⅜″, ½″.

Dowelling Jig (see: Jig, Dowelling #2245)

Drafting set (see: Compass and Divider (set) #0975)

1320 **Dresser, Abrasive wheel**
Auto and Power Mechanics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Diamond or hooded Huntington-type with extra star cutters. (Must conform to ASA standards.)

1325 **Drill, Blacksmith (set)**
General Shop
High speed; ½″ shank; sizes ⅝″, 11/16″, ¾″, 13/16″, ⅞″, 15/16″, 1″.

1330 **Drill, Electric, Portable (¼″)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced

Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Key type chuck; ball thrust bearing; no load speed, approximately 2000 RPM (or variable speed); complete with 3-wire cord and plug; 120V; heavy duty; pistol grip with switch built-in.

1335 **Drill, Electric, Portable (⅜″)**
Auto and Power Mechanics: beginning, advanced
Metalworking: advanced
Heavy duty; 115V; 3 amp; side arm; needle thrust bearings; RPM (1000—no load) (650—load); 3 jaw keyed chuck; pistol grip with switch built-in; three wire cord and plug.

1340 **Drill, Electric, Portable (½″)**
Auto and Power Mechanics: advanced
Metalworking: advanced
Heavy duty: 115V; 3 amp; side arm; needle thrust bearings; RPM (1000—no load) (650—load); 3 jaw keyed chuck; pistol grip with switch built-in; three wire cord and plug.

1350 **Drill, Hand (¼″)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Solid grey-iron wide flange gear and 2 steel pinions; machine cut teeth; 3 jaw chuck; steel frame; hardwood handle and gear knob.

1355 **Drill, Hand (⅜″)**
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Solid grey-iron wide flange gear and 2 steel pinions; machine cut teeth; 3 jaw chuck; steel frame; hardwood handle and gear knob.

1360 **Drill Stand, Fractional**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary

General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
For twist drills from 1/16" to ½" by 64ths.

1365 **Drill, Twist (letter set)**
Electricity-Electronics: beginning, advanced
Metalworking: beginning, advanced
High speed steel; straight shank; letter set A to Z.

1370 **Drill, Twist (number set)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
High speed steel; straight shank; numbers 1 to 60; wire gauge.

1375 **Drill, Twist, Straight shank (fractional set)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
High speed steel; by 64ths from 1/16" to ½".

1380 **Drill, Twist, Taper shank (fractional set)**
Metalworking: beginning, advanced
High speed; #2 Morse Taper Shank; ⅝" to 1" by 8ths.

1385 **Dry Press**
Ceramics: beginning, advanced
Table model. Overall 15"H x 9"D x 7½"W. Chromium plated frame. Pressure up to approximately 1 ton by adjusting bar handle. Steel die for 1" disc supplied. Wt. 25 lbs.

1390 **Dry, Print**
Graphic Arts: beginning, advanced
Rotary type; constant temperature; 12" x 18" chrome plated surface; 110V. Three wire cord and plug.

1395 **Duplicating Machine, Spirit**
Graphic Arts: advanced
Maximum sheet size 8½" x 14"; electrically operated; 110V; 250 sheet feed capacity.

1400 Duplicating Machine, Stencil

Graphic Arts: advanced

Paper size 8½" x 14" maximum; electrically operated; 110V; 90 copies per minute; with counter.

1405 Dust Collection System

Woodworking: beginning, advanced

Beginning: Minimum capacity of 500 C.F.M., outside vented, self-contained for installation within laboratory. Minimum motor H.P. of 1/3.

Two storage drums with "Y" diverting duct arrangement.

Advanced: Self-contained unit consisting of a medium efficiency low pressure drop centrifugal precleaner and a Dynamic Precipitator of the combined exhauster and dust separator type driven by a 10 HP totally enclosed ball bearing 1800 RPM motor and base for 220/60/3 service. Assembly to be Type D Roto-Clone with Skimmer Precleaner including combination dust storage hoppers. Capacity: not less than 4600 cu. ft. of free air per minute against not less than 6.0 inches water gauge total external pressure when operated at approximately 1000 RPM under which conditions the total power required shall not exceed 8.4 brake horsepower. Ducts from fan to equipment shall be built on the site.

1410 Electricity Demonstration Panel, Teacher's

General Shop

Designed for use by instructors in lecture demonstrations or by students in performing laboratory experiments; panels or boards each covering one of wide range of subjects (i.e. magnetism, Ohm's law, series and parallel circuits, etc.) providing a series of experiments to demonstrate the subject.

1415 Electricity Training Panel, Student's

General Shop

For use by students conducting laboratory experiments; components complement those used in instructor's panel.

1420 Electronics Demonstration Panel, Teacher's

General Shop

Designed for use by instructors in lecture demonstrations or by students in performing laboratory experiments; panel or board each covering one of wide range of subjects (i.e. inductance transistor oscillator, vacuum tube receivers, etc.) providing a series of experiments to demonstrate the subject.

1425 Electronics Training Panel, Student's

General Shop

For use by students conducting laboratory experiments; components complement those used in instructor's panel.

1430 Electroplating Unit

Metalworking: beginning, advanced

50 amps; 0-9 volts.

1435 Engine, Automobile

Auto and Power Mechanics: beginning, advanced

Used overhead valve, 6-cylinder internal combustion engine; with transmission and clutch in running condition.

1440 Engine, Diesel

Auto and Power Mechanics: beginning, advanced

Small, 100 HP or less; 4-cylinder; 2-cycle

1445 Engine, Outboard motor

Auto and Power Mechanics: beginning, advanced

Local purchase.

1450 Engine, Rocket (small or model)

Auto and Power Mechanics: advanced

1455 Engine, Small (2-cycle)

Auto and Power Mechanics: beginning, advanced

General Shop

Single cylinder; 2-cycle; 2.5 HP; air cooled; vertical shaft; cast iron block (custom) or aluminum alternate.

1460 Engine, Small (4-cycle)

Auto and Power Mechanics: beginning, advanced

General Shop

Single cylinder; 4-cycle; air cooled; horizontal shaft; cast iron or aluminum block; heavy flywheel; vacu-jet carburation.

1465 Engine, Steam (model)

Auto and Power Mechanics: advanced

Model of typical mill engine with boiler; engine is 8½"L, 7 lbs., with stroke of 1¼", bore of ⅝"; boiler has working pressure of 60 lbs., brazed copper drum with 2 circulating tubes and superheater, cast iron front and back plates, asbestos lining, water gauge, safety valve and steam valve.

1470 Engine, Turbine (small)

Auto and Power Mechanics: beginning, advanced

1475 Enlarger, Photographic

Graphic Arts: beginning, advanced

Condenser model for negative size 4" x 5" and smaller. Condenser system should be variable; filter drawer provision; lens and lens mounts for 135mm, 90mm, 50mm; negative carriers for 4" x 5", 2¼" x 3¼", 120 film and 35mm film.

1480 Eraser Shields

Drafting: beginning, advanced

General Shop

Stainless steel; polished finish; with 20 various openings; free from burrs and sharp edges; size 2½" x 3¾" x .005"T.

1485 **Erasing, Machine, Electric**

Drafting: advanced

110-115 volt; 2400-3400 RPM erasing speed; AC electric erasing machine with 84″ cord, off-on switch; retractable hanger with assortment of 4 eraser refills.

1490 **Exposure Frame**

Graphic Arts: advanced

14″ x 19″ capacity; photo-flood bulb; automatic timer; 110V.

1495 **Extension Cord**

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

Heavy duty; grounded; 25′.

Extension, Socket wrench, Flexible handle (see: Wrench, Socket, Flex handle #5375-#5380)

Extension, Socket wrench handle (see: Wrench, Socket, Handle extension #5385-#5410)

1500 **Extractor, Screw (set)**

Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced

Set of 6, #1 to #6. Tapered ends with left hand twist which draws extractor into stud as it is removed; square shaft permitting the use of a wrench; one each 1/8″, 9/64″, 7/32″, 5/16″ screw extractors; kit bag.

1505 **Extruder, Large**

Plastics: advanced

Minimum capacity 2″; take-off and cooling equipment; dies for sheeting and other shapes; blown film tower; 220-440V, 3-phase operation.

1510 **Extruder, Medium**

Plastics: beginning, advanced

Capacity 1″ to 1½″; take-off and cooling equipment; dies for sheeting and other shapes; 220-440V; 3-phase operation.

1515 **Extruder, Small**

Plastics: beginning, advanced

Capacity ¾"; take-off and cooling equipment; dies for sheeting and other shapes; 110-220V, single-phase operation.

1520 **Extrusion, Machine, Auger type**

Ceramics: beginning, advanced

De-airing extruder, auger-type; easily dismantled and cleaned; special dies are available.

1525 **Eyelet Setter**

Elementary

General Shop

Knurled handle; for setting eyelets in leather.

1530 **Ferrotype Plate**

Graphic Arts: beginning, advanced

Chrome plated; 10" x 14".

1535 **Fid**

General Shop

Hardwood handle; 2¼"L blade; for enlarging punch hole.

1540 **Files (assorted sizes, shapes, and cuts, with handles, as specified)**

Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

Area	Quantity	Length	Name or Shape	Spacing
Auto and Power Mechanics	2	10"	Half-round	Smooth
	6	10"	Half-round	Bastard
	3	10"	Lathe (Long Angle, Safe Edge)	
	3	10"	Brass (Flat)	
	2	10" x ⅜"	Round	Bastard
	2	8" x ¼"	Round	Bastard
	2	10" x ⅜"	Square	Bastard
	3	6"	Slim Taper (Triangular)	
	2	8"	Warding	
	3	10"	Flat	Second-Cut Bastard

	6	10″	Half-round	Bastard
	6	10″	Round	Bastard
	3	10″	Aluminum (Flat)	
Electricity-Electronics	4	6″	Mill	Second-Cut
	4	6″	Half-round	Second-Cut
Elementary	12	8″	Cabinet (Half-round)	
	6	8″	Mill	Second-Cut
	6	8″	Square	Second-Cut
	6	8″	Round	Second-Cut
General Shop (general metals)	2	8″	Flat Double-Cut	Bastard
	2	10″	Flat Double-Cut	Bastard
	2	6″	Half-round	Bastard
	2	8″	Half-round	Bastard
	2	10″	Half-round	Bastard
	2	8″	Half-round	Second-Cut
	2	10″	Half-round	Second-Cut
	2	8″	Mill	Second-Cut
	2	10″	Mill	Second-Cut
	2	8″	Rat-tail (Round, Slim)	Second-Cut
	2	8″	Round	Second-Cut
	2	10″	Round	Second-Cut
	2	6″	Slim, Taper Single-Cut	
	2	8″	Square	Second-Cut
	2	8″	Square	Smooth
	2	10″	Vixen (Half-round)	
	2	8″	Wood (Flat)	Coarse
	2	10″	Wood (Flat)	Coarse
	2	8″	Cabinet (Half-round)	
	2	10″	Cabinet (Half-round)	
	2	8″	Cabinet Rasp (Half-round)	Bastard
	2	10″	Cabinet Rasp (Half-round)	Bastard
	2	6″	Slim, Taper Single-Cut	
Metalworking	4	8″	Flat Double-Cut	Bastard
	4	10″	Flat Double-Cut	Bastard

	6	4″	Mill	Smooth
	6	6″	Mill	Smooth
	6	8″	Mill	
	2	6″	Round	Second-Cut
	6	8″	Round	Bastard
	4	8″	Three-Square (Triangular)	Second-Cut
Plastics	6	10″	Mill	Second-Cut
	6	10″	Mill	Bastard
	6	10″	Half-round	Second-Cut
	6	10″	Half-round	Bastard
	6	8″	Round	Second-Cut
	6	8″	Round	Bastard
	6	6″	Warding	
	3	10″	Cabinet Rasp	Second-Cut
Woodworking	3	7″	Slim, Taper (Triangular) Single	
	6	10″	Half-round Rasp	
	6	10″	Round Rasp	
	12	10″	Cabinet Double-Cut (Half-round)	

1545 File, Auger bit

General Shop
Woodworking: beginning, advanced
7-inch; standard cut.

File, Auto body (set) (see: Body-Fender Tools #0395)

1550 File Card and brush

Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
9½″L; brush 1½″ x 5″.

1555 File, Drafting

Drafting: advanced
Flat cap; two 5-drawer units; inside dimensions to accommodate 36″ x 48″ drawing sheets; flush base with partitions between drawers.

File Handles (see: Files, #1540. Sizes and number determined by quantity and size of file specified)

1560 **File, Contact point (ignition)**
Auto and Power Mechanics: beginning, advanced
Double-cut; 2½″ blade.

1565 **File, Jeweler's (set)**
Electricity-Electronics: beginning, advanced
Assorted shapes; 4″ to 6″.

1570 **File, Needle (set)**
Electricity-Electronics: beginning, advanced
Elementary
Plastics: beginning, advanced
Set of 12; 5½″L; assorted shapes; (1 each: Marking, Joint, Barrette, Slitting, Square, Three-square, Flat, Oval, Knife, Round, Half-round, Equaling).

File, Rasp (see: Files #1540)

1575 **File, Swiss pattern (set)**
General Shop
12 assorted.

File, Wood (see: Files #1540)

1580 **Filter, Photo (set)**
Graphic Arts: advanced
For variable contrast photographic paper; should include filters for equivalent paper grades of 1 through 4 by half steps.

1585 **Filter Press (laboratory model)**
Ceramics: advanced
Fitted for filling by air pressure from air tank. Has 10 chambers 9″ square, will deliver 30 lbs. of clay per pressing.

1590 **Finishing Rubber**
Ceramics: beginning, advanced
Kidney shapes of pliable rubber; for smoothing and finishing pottery; for screening glaze; sizes #1, 2⅛″ x 3½″; size #2, 2″ x 4¼″.

1592 **Fire Blanket**
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

1593 Fire Extinguisher

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

5 lb. capacity UL rated 8 BC—used on all B and C fires. Acceptable for grease electrical fires, and chemical fires.

(First aid—For Class A, B, and C fires.) Carbon dioxide for electric, grease and flammable liquid fires; 5 lb., 10 lb., 15 lb., or 20 lb. capacity; 5 lb. size UL rated 4 BC; complete with wall hanger. Pressurized water—2½ gal.; UL rated 2A; air-pressurized to 100 p.s.i.; stainless steel shell; pressure gauge; squeeze grip release handle; needs no annual recharge service; 24¾"H x 7" diameter; with charge to prevent freezing; complete with hanger. Dry chemical—2¾ lb.; UL rated 6 BC; pressure gauge at top shows action readiness; one hand operation; protection against all B & C fires; Coast Guard approved; complete with bracket. Dry chemical—5 lb. capacity; UL rated 8 BC; for electric and flammable liquid fires; complete with wall hanger.

1595 Firing Racks

Ceramics: beginning, advanced

Heat resistant; 4 mesh ni-chrome; for transporting work in and out of kiln; all racks are supplied flat; 3 sizes: 3" x 3", 6" x 6", 12" x 12".

1600 First Aid Kit

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

To be purchased where state laws allow. Standard insurance kit recommended including common supplies and First Aid Manual Local and state regulations should be checked.

1605 **Flaring Tool (set)**
Auto and Power Mechanics: advanced
General Shop
Range 3/16" to ⅝"; tapered hardened cone riding on ball bearing.

1610 **Flask, Foundry (large)**
Metalworking: beginning, advanced
12" x 18"; cope 4" deep, drag 4" deep.

1615 **Flask, Foundry (small)**
General Shop
Metalworking: beginning, advanced
Plastics: advanced
10" x 12"; cope 3" deep, drag 3" deep.

1620 **Flocking Gun**
Elementary
Spray gun.

1625 **Flywheel Holder**
Auto and Power Mechanics: beginning, advanced
General Shop
For small gas engines.

1630 **Folding Machine**
Graphic Arts: advanced
Paper size 2¼" x 4" to 9½" x 15"; complete with slitter, scorer and perforater.

1635 **Forge, Gas**
General Shop
Metalworking: advanced
With blower; swinging adjustable refractory lid; solenoid safety valve; limiting orifice.

1640 **Fork, Enameling**
General Shop
17½"L.

1645 **Fork, Firing**
Ceramics: beginning, advanced
Sturdy heavy gauge firing fork with wooden handle. 20"L; wt. 6 oz.

1650 **Forming Roll, Slip**
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
30"; capacity mild steel: 22 gauge.

1655 **Fountain Pen (technical set)**
Drafting: advanced
General Shop
Non-clogging; seven point sections, sizes 00, 0, 1, 2, 2½, 3, 4; reusable ink cartridges; with holder, case, and ink filler bottle; possible to disassemble for cleaning.

1660 **Frame, Printing**
Drafting: advanced
For exposures by sunlight; to accommodate 17" x 22" drawings.

1665 **Funnel**
Woodworking: beginning, advanced

1670 **Funnel, Longspout, Automatic transmission**
Auto and Power Mechanics: advanced
Spring loaded button to control fluid flow; punch spout for opening and pouring oil cans; 23½"L; 4½" flexible cable hose.

1675 **Furnace, Bench**
General Shop
Metalworking: beginning, advanced
Gas; two-burner; refractory lined hood; pilot light; shut-off valve; front baffle.

1680 **Furnace, Crucible**
Ceramics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: advanced
Maximum capacity #16 crucible; temperature range 1200-2300°F; with blower, spark ignition, gas pressure regulator, safety gas-check valve and limiting orifice.

1685 **Furnace, Heat treating**
Metalworking: beginning, advanced
Beginning: Firebox 5"H x 7¾"W x 13"L; temperature range 1300 to 2400° F; blower; pressure regulator; limiting gas orifice; pilot; gas-check valve.

Advanced: Firebox 7"H x 13"W x 16½"L; temperature range 1300° to 2350° F; blower; pressure regulator; limiting gas orifice; pilot; gas-check valve.

1690 **Furniture, Wood, Fonts**
General Shop
Graphic Arts: beginning, advanced
Standard labor-saving font for lock-up in cabinet; sizes should include widths 2-3-4-5-6-8-10 picas; lengths 10-15-20-25-30-40-50-60 picas.

1695 **Galley (10″ x 16″)**
Graphic Arts: advanced
Uniform gauge; rustproof; welded corners.

1700 **Galley (8¼″ x 13″)**
General Shop
Graphic Arts: advanced
Uniform gauge; rustproof; welded corners.

1705 **Galvanometer**
Auto and Power Mechanics: advanced
DC; 50-0-50 scale; 2½″ or 3½″ model; sensitivity microamperes 500-0-500 or 75-0-75; resistance 46 or 2000 ohms.

1710 **Gauge, Auger bit**
Ceramics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
For gauging hole depth.

1715 **Gauge, Belt Tension**
Auto and Power Mechanics: beginning, advanced
Die cast frame; easy to read tension gauge dial 40-135 lbs.

1720 **Gauge, Carburetor (set)**
Auto and Power Mechanics: advanced

1725 **Gauge, Center**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
For use with screw-cutting lathe tools. Spring tempered.

1730 **Gauge, Cylinder pressure**
Auto and Power Mechanics: beginning, advanced
General Shop
Auto and Power Mechanics: Universal compression tester adaptable for hard to reach places; gauge range 0-300 p.s.i.; quick disconnect fittings; complete with hose.
General Shop: Compression tester; gauge range 0-300 p.s.i.; 360° rotating stem.

1735 **Gauge, Depth rule**
General Shop

1740 Gauge, Draw
Elementary
Hollow handle; for cutting leather strips.

1745 Gauge, Drill, Fractions
Auto and Power Mechanics: beginning, advanced
Woodworking: beginning, advanced
Jobber's drill plate; range 1/16" to ½" by 64ths; case hardened steel.

1750 Gauge, Drill, Number
Auto and Power Mechanics: beginning, advanced
Range: 80—0; case hardened steel.

1755 Gauge, Drill point
Metalworking: advanced
Consisting of a six-inch hook rule graduated in 8ths, 16ths, 32nds, and 64ths, in combination with a sliding head which can be positioned on rule and locked; head beveled to 59°; head graduated in 32nds along 59° face.

1760 Gauge, Ignition (set)
Auto and Power Mechanics: beginning, advanced
General Shop

1765 Gauge, Line (12")
General Shop
Graphic Arts: beginning, advanced
Stainless steel; etched 6 and 12 point graduations on one side; agate and inches on other side.

1770 Gauge, Line (18")
Graphic Arts: beginning, advanced
Brass; 6 and 12 point one side; agate and inches on other side.

1775 Gauge, Marking
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced

1780 Gauge, Marking (double bar)
Woodworking: beginning, advanced

1785 Gauge, Micrometer, Depth
Metalworking: advanced
Calibrated thousandths; 0 to 3".

1790 Gauge, Pin (sets)
General Shop
Graphic Arts: beginning, advanced
Spring tongue.

1795 Gauge, Radius and fillet
Metalworking: advanced
With radii from 1/32" to 17/32" by 64ths.

1800 Gauge, Screw pitch
Auto and Power Mechanics: advanced
Drafting: advanced
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
With 22 pitches from 9 to 40.

1805 Gauge, Small hole
Metalworking: advanced
Set of four: from ⅛" to ½".

1810 Gauge, Spark plug
Auto and Power Mechanics: beginning, advanced
General Shop
1¾" fingers; .010, .012, .013, .015, .018, .020, .022, .024, .026, .028, .030, .032, .035.

1815 Gauge, Spring tension
Auto and Power Mechanics: beginning, advanced
One to be used in conjunction with a torque wrench; will test valve and clutch springs; one brake spring tester.

1820 Gauge, Surface
Auto and Power Mechanics: advanced
Metalworking: advanced
Base 3⅛" x 2½"; hardened; two spindles, 9" and 12"; spindle swivels to any position from vertical to horizontal; with scriber.

1825 Gauge, Telescopic
Metalworking: advanced
Set: ½" to 6".

1830 Gauge, Thickness ("feeler")
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Minimum 6 leaf; ½" x 2½"; .0015 to .015.

1835 Gauge, Tire pressure
Auto and Power Mechanics: beginning, advanced
Easy to read; pencil type; calibrated 4 to 50 lbs., in one lb. units.

1840 **Gauge, Type high**
Graphic Arts: beginning, advanced
Standard for letterpress printing (0.918").

1845 **Gauge, Vacuum and low pressure**
Auto and Power Mechanics: beginning, advanced
Vacuum seal up to 28"H; pressure scale up to 10 p.s.i.; plus 11 adaptors; in metal box.

1850 **Gauge, Vernier height**
Metalworking: advanced
Minimum 0 to 12"; offset arm to permit measurement from 0 over full range; base slotted to provide clearance for arm and to increase stability.

1855 **Gauge, Wire and sheet metal (American)**
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
American Standard; sizes 0 to 36; with decimal for each number stamped on back.

1860 **Gauge, Wire and sheet metal (U.S.S.)**
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
U.S. Standard; sizes 0 to 36; with decimal for each number stamped on back.

1865 **Gear Puller**
General Shop
For small gas engines.

1870 **Geometric Shapes (set)**
Drafting: advanced
Variety of plane and solid geometric figures; of hardwood; in suitable container.

1880 **Gloves, Asbestos (pair)**
Elementary
General Shop
Metalworking: beginning, advanced
Unlined; 14"L; medium size.

1885 **Gloves, Leather (pair)**
Auto and Power Mechanics: advanced
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
Cowhide; for welders.

1890 **Gloves, Thin rubber (pair)**
Elementary
Thin latex.

1892 **Gloves, Thick rubber (pair)**
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced

1895 **Glue Pot**
Graphic Arts: beginning, advanced
110V; automatic temperature control; 1 qt. copper insert.

1900 **Goggles, Spectacles, Clear observation**
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Must meet ASA Z2.1 1959 code; side shields included.

1905 **Goggles, Gas welding**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
(Must conform to ASA standards.)

1910 Goggles, Melter's
General Shop
Composition cups with indirect ventilation; adjustable chain bridge; 1-piece adjustable elastic headband; with melter blue lens, or clear lens. (Approved and exceed ASA Spec Z2.1-1959.)

1915 Graduate Cylinder (100cc)
Ceramics: beginning, advanced
Plastics: beginning, advanced

1920 Graduate Cylinder (500cc)
Ceramics: beginning, advanced
Plastics: beginning, advanced

1925 Graduate, Darkroom
Graphic Arts: beginning, advanced
Conical type; 16 oz. capacity; graduated in both English and metric systems.

1930 Grease Gun
Auto and Power Mechanics: beginning, advanced
Graphic Arts: beginning, advanced
Woodworking: beginning, advanced
Hand operated; loaded through filler valve or directly into barrel; corrosion resistant finish; approximately 15″L, with plunger; 1 lb. capacity; with hydraulic fitting; flex hose.

1935 Grease Gun, Chassis
Auto and Power Mechanics: advanced
(Chassis Lubricator) Including 45:1 ratio pump, 6′, ¼″ 1D pressure hose; "Z" type swivel pressure regulator valve; 360° swivel adapter; air line coupler; follow plate dolly assembly; baked enamel finish; will dispense from 25, 35, and 50 lb. pails.

1940 Grease Gun, Extended interval
Auto and Power Mechanics: advanced
Grease gun with adapters for late model cars designed for extended interval servicing; with 12″ hose.

1945 Grease Gun, Gear Lube
Auto and Power Mechanics. advanced
Hand operated fast acting pump delivering 3 oz. per stroke; 8 pint non-totalizing meter; 6′, ¼″ 1D year lube hose and non-drip nozzle; portable caster base and shield pail cover.

1950 Grease Gun, Suction, General purpose
Auto and Power Mechanics: beginning, advanced
For servicing oil filters, gear cases, transmissions, differentials, etc.; capacity 16 oz.; impervious rubber follower; zinc plated with flexible metal extension; 24″L.

1955 **Grinder, Belt**

Plastics: beginning, advanced

1½″W belt; 1 horsepower, 220V, 3-phase; magnetic switch guards; work rest. (Must conform to ASA standards.)

Grinder, Bench (see: Grinder, Edge tool (bench) #1965)

1960 **Grinder-Buffer, Bench, Combination**

Ceramics: beginning, advanced

Elementary

¼ HP; ball-bearing; 1725 RPM; 115V, AC; manual starter with overload protection, 8 #2 wire plus ground cord; double extension shaft for 6″ grinder and rest and buffing attachments for polishing, complete with polishing kit; complete with switch, motor cord, and plug. (Must conform to ASA standards.)

1965 **Grinder, Edge tool (bench)**

Auto and Power Mechanics: beginning, advanced

Elementary

Plastics: beginning, advanced

Woodworking: beginning, advanced

1″ x 7″ model including one fine-grit and one coarse wheel; water pot; twin light safety shields; wheel guards; adjustable spark deflectors; tool rests; mounted switch with 3-prong plug; motor ½ HP, 60 cycles, 110V, with overload protection. Three-wire cord and plug. (Must conform to ASA standards.)

1970 **Grinder, Flexible shaft**

Auto and Power Mechanics: advanced

(Must conform to ASA standards.)

1975 **Grinder, Heavy duty pedestal**

Metalworking: advanced

12″; with self-contained dust collector; with tool tray and water pot, and wheels; 2 HP motor, 220V, 3-phase, 60 cycle; magnetic starter; grinder and fan motors to operate simultaneously. (Must conform to ASA standards.)

1980 **Grinder, Oil tool**

General Shop

Woodworking: beginning, advanced

Floor model complete with mounted switch, two 1½″ x 6″ oilstone wheels, one fine and one coarse, and a ½″ x 8″ emery dry wheel with tool rest and eye shield, grooved table with adjustable tool holder, two coolant tanks with flow controls. Motor ¼ HP, 110V, 60 cycles, single-phase, complete with conductor cord and plug. (Must conform to ASA standards.)

1985 **Grinder, Pedestal**

Auto and Power Mechanics: advanced

Electricity-Electronics: beginning, advanced

General Shop

Metalworking: beginning, advanced

1" x 7" model including one fine-grit and one coarse wheel; water pot; twin light safety shields; wheel guards; adjustable spark deflectors; tool rests; mounted switch with 3-prong plug; motor ½ HP, 60 cycles, 110V, with overload protection mounted on cast iron floor pedestal. Three wire cord and plug. (Must conform to ASA standards.)

1990 **Grinder, Surface**

Metalworking, advanced

Minimum table working surface 13½" x 6"; minimum longitudinal feed 14"; minimum cross feed 7"; work height 0" to 11½"; vertical feed .0001"; cross feed .001"; 7" wheel; spindle motor 1 HP, 3450 RPM; hydraulic pump motor 1/3 HP; diamond dresser; table lock and stops; collet; wheel puller and spanner wrench. (Must conform to ASA standards.)

1995 **Grinder, Valve (set)**

Auto and Power Mechanics: advanced

General Shop

(Valve Refacer) For wet grinding valves 9/32-9/16 diameter stems; 1/3 HP, 115V, 60 cycle motor; positive stop angle settings; valve stem and rocker arm grinding attachment; with cabinet and assortment of valve seat grinding stones, stove sleeves, pilots, etc.; portable unit. (Must conform to ASA standards.)

2000 **Groover, Hand (set)**

General Shop

Metalworking: beginning, advanced

Set of 3; sizes: 0, 2, 4.

2005 **Growler, Armature testing**

Auto and Power Mechanics: beginning, advanced

120V; 60 cycle; 2 scale meter; 2 ranges (0-5 amps; 0-25 amps); pilot lights test prods on separate transformers.

2010 **Gun, Engine cleaning**

Auto and Power Mechanic: beginning, advanced

(Hydro-Air Pressure Washer) Gun type with screw type adjustment; connects to air and water supply; rubber grip to protect from hot water; one siphoning attachment; extensions; one flush adapter tapered cone to fit openings ¾" to 2½" diameter openings.

Hammer, Auto body (set) (see: Body-Fender Tools #0395)

2015 **Hammer, Ball peen (2 oz.)**

Elementary

Polished face and peen.

2020 Hammer, Ball peen (4 oz.)
Auto and Power Mechanics: beginning, advanced
Elementary
General Shop
Polished face and peen.

2025 Hammer, Ball peen (8 oz.)
Auto and Power Mechanics: beginning, advanced
Metalworking: beginning, advanced
Polished face and peen.

2030 Hammer, Ball peen (12 oz.)
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Polished face and peen.

2035 Hammer, Ball peen (16 oz.)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Polished face and peen.

2040 Hammer, Ball peen (30 oz.)
Metalworking: advanced
Polished face and peen.

2045 Hammer, Ball peen (32 oz.)
Metalworking: advanced
Polished face and peen.

Hammer, Blacksmith's hand (see: Hammer, Engineer's #2090, #2095)

2050 Hammer, Bookbinder's backing
Graphic Arts: beginning, advanced
1 lb.; 12 oz. head; wooden handle.

2055 Hammer, Brass head
Auto and Power Mechanics: beginning, advanced
1 lb.; 3"L; 1¼" diameter.

Hammer, Bumping (see: Body-Fender Tools #0395)

2060 Hammer, Chasing
Auto and Power Mechanics: advanced
1"; with handle attached.

2065 Hammer, Chipping
Auto and Power Mechanics: advanced
Elementary
General Shop
Metalworking: advanced

2070 Hammer, Claw (7 oz.)
Elementary
General Shop
Woodworking: beginning, advanced
Curved claw; bell face; hickory handle.

2075 Hammer, Claw (10 oz.)
Elementary
Curved claw; bell face; hickory handle.

2080 Hammer, Claw (13 oz)
Elementary
General Shop
Woodworking: beginning, advanced
Curved claw; bell face; hickory handle.

2085 Hammer, Claw (16 oz.)
Auto and Power Mechanics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Curved claw; bell face; hickory handle.

2090 Hammer, Engineer's (40 oz.)
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Cross peen; fully polished.

2095 Hammer, Engineer's (48 oz.)
Metalworking: beginning, advanced
Cross peen; fully polished.

2100 Hammer, Forming
General Shop
Assorted shapes; medium size.

2105 Hammer, Lead
Auto and Power Mechanics: beginning, advanced
3 lb.; lead head; steel shank.

2107 Hammer, Magnetic
Woodworking: beginning, advanced
Standard upholsterer's.

2110 Hammer, Raising
General Shop
Polished faces.

2115 Hammer, Riveting, Machinist's
General Shop
Metalworking: beginning, advanced
Fully polished.

2120 Hammer, Setting
General Shop
12 oz.

2125 Hammer, Sledge
Auto and Power Mechanics: advanced
5 lb.; medium length handle; seasoned hickory handle.

2130 Hammer, Soft face (4 oz.)
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Replaceable plastic faces.

2135 Hammer, Soft face
Auto and Power Mechanics: beginning, advanced
General Shop
With replaceable plastic faces.

2140 Helmet, Welding arc (hand type)
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: advanced
Plastics: advanced
With #10 lens and cover. (Must conform to ASA standards.)

2145 Helmet, Welding arc (head type)
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: advanced
Molded fiberglass reinforced helmet; impervious to moisture and warping; removable nylon ratchet headgear; rounted underchin; lift-type front; shade #10. (Approved and exceed ASA Spec Z2.1-1959.)

2150 Hoist, Double post

Auto and Power Mechanics: beginning, advanced

Pistons in fixed position with minimum diameter of 7½″; pistons operated independently or in unison; fully hydraulic air-operated with low oil control for safety; flush floor model; height of rise 70″; capacity 8000 lbs. at 120 lbs. per sq. in. air pressure; controls mountable clear of hoist area; capable of handling passenger cars, foreign and domestic, as well as some small trucks; to be installed by supplier; all underground piping to be appropriately wrapped.

2155 Hoist, Single post

Auto and Power Mechanics: beginning, advanced

Piston diameter 10½″; semi-hydraulic air-operated with low oil control for safety; height of rise 66″; controls mountable clear of hoist area; capable of handling passenger cars foreign and domestic as well as some small trucks; to be installed by supplier; all underground piping to be appropriatey wrapped.

2160 Hone, Brake cylinder (set)

Auto and Power Mechanics: beginning, advanced

Stones on free swinging self centering shoes; tension controlling screw; for ½″ to 2″ diameter cylinders; 2 medium grit stones; 2 fine grit stones.

2165 Hone, Cylinder (to 7″)

Auto and Power Mechanics: advanced

(Glaze Breaker) range 2″-5¼″ diameter; with 2—3″ medium grit stones and felt wiper pad.

2170 Hone, Pin

Auto and Power Mechanics: advanced

2175 Hose, Air

Auto and Power Mechanics: beginning, advanced

Woodworking: beginning, advanced

25′ x 14″; heavy duty; 2-braid carcass; flexible.

2180 Hose, Exhaust, Garage

Auto and Power Mechanics: beginning, advanced

100′ only; 2½″ diameter; 100% neoprene rubber; rugged spiral construction; withstanding temperatures −40 to +325 degrees Fahrenheit.

2185 Hose, Water

Auto and Power Mechanics: beginning, advanced

50′; garden type; heavy duty; 2-ply; with end fittings.

2190 Hot Plate, Electric

Elementary

Graphic Arts: beginning, advanced

Woodworking: advanced

100 V with thermostatic control switch.

2195 Hydraulic Instruction Unit

Auto and Power Mechanics: advanced

Bench 60"L x 23"D x 33"H, heavy steel top and frame with drain to rear, integral hydraulic reservoir, leveling screws, fitted interior, masterkeyed doors; instrument panel with 30 lb., 160 lb., and 400 lb. x 3½" gauges, 30 second 1 revolution timer clock, toggle switch with pilot and duplex; pressure source with positive displacement pump, direct drive from ¼ HP TEFC motor, filter, external relief valve, precision pressure control valve and 4 valve outlet manifold; component mounting; permanent plumbing of metal tubing and pipe; plumbing to be varied by students ¼" and ⅜" plastic tubing with finger tightening fittings, color coded; power requirements: 120V 5A, with 3-wire cord and 6-rounded plug; 2—1⅛" x 6" double acting cylinders; 1—½" x 3" double acting cylinder; weights, weight arm, and arm support; pressure switch; accumulator; 4-way manual valve; 2—unidirectional flow control valves; 3 wrenches; all necessary fittings, tubing, bolts, oil, etc.

2200 Hydrometer

Auto and Power Mechanics: beginning, advanced

(Anti-freeze Tester) Large colour coded charts, cooling capacity of all car models to date; self-calculating variety; rugged construction thermometer; able to test solutions up to 180° approximate; for all ethylene glycol and methanol types.

Battery Testers—(see Tester, Battery cell—4815)

2205 Imposing Stone Table

General Shop

Graphic Arts: beginning, advanced

General Shop: Top 31" x 39"; with cabinets below for 1 font of reglets, 1 font of furniture; storage unit for 8" x 12" and 10" x 15" chases; storage unit for 8¾" x 13" galleys; with drawer.

Graphic Arts: 27" x 39" (beginning); 31" x 39" (advanced); cast iron surface; furniture font; reglet font galleys.

2210 Indicator, Dial test

Auto and Power Mechanics: advanced

Metalworking: advanced

Auto and Power Mechanics: For cylinders; dial mounted on block that moves at right angles to the sled; sled to maintain in alignment with cylinder walls; sled is hardened and ground; adjustable handle; dial with locking mechanism, and non-breakable crystal; adjustable zero location by turning dial face; range 2½" to 6", in graduations of .001"; dial reading 0-100, one revolution .100°.

Metalworking: Ratchet joint contact point; reversible action; range .030, adjustable dial.

Iron, Soldering (see: Soldering copper, Electric #4295-#4325)

2215 Jack Auto bumper (double-saddle type)

Auto and Power Mechanics: beginning, advanced

Hydraulic; 24″ travel; built-in lowering speed control valve; open; "V" shaped base; portable unit on wheels; capacity 4000 lbs.; lifting range 5⅞″-37″; horizontal arm (twin lift) spread 12″-45″; with extensions; universal bumper saddles. (Must conform to ASA standards.)

2220 Jack, Auto, Hydraulic floor type (1½ ton)

Auto and Power Mechanics: beginning, advanced

24″ lift; 90° handle stroke; with safety lock, direct-action release control; built-in lowering speed control valve; swivel lifting cap. (Must conform to ASA standards.)

2225 Jack, Auto, Hydraulic (standard type) (1½ ton)

Auto and Power Mechanics: beginning, advanced

Woodworking: advanced

Wide base; self locking extension screw with serrated saddle; built-in lowering speed control valve; lifts 7″ to 14¼″. (Must conform to ASA standards.)

2230 Jack, Auto, Hydraulic (standard type) (2 ton)

Auto and Power Mechanics: advanced

Strong handle socket; guard lugs to protect piston; self locking extension screw with serrated saddle; 23½″ handle (two piece); wide base; built-in lowering speed control valve; lifts 8½″ to 18″. (Must conform to ASA standards.)

2240 Jars, Grinding

Ceramics: beginning, advanced

Of special wear-resistant porcelain containing Byrundum; wide mouth for easy loading; integral lid and lock for fast opening and closing; eight sizes: ½ pt. to 6½ gals.

2245 Jig, Doweling

General Shop

Woodworking: beginning, advanced

With guides: 3/16, ¼, 5/16, ⅜, 7/16, ½″.

2250 Jigger, Electric (industrial model)

Ceramics: beginning, advanced

Variable speed wheel and jigger; ¾ HP electric motor; speeds from 0 to 525 RPM; weight 475 lbs.

2255 Jogger, Paper

Graphic Arts: advanced

Vibrating; 14″ x 20″; 110V.

2260 Jointer (6″)

Elementary

General Shop

Plastics: beginning, advanced

Woodworking: beginning, advanced

Long bed; floor model with totally enclosed metal stand to include right and left tilting fence, knife safety guards for both front and rear, individual table adjustment for infeed and outfeed tables and rabbeting capacity of ½″. Motor: ½ HP, 60 cycles, 3-phase, 220V, with magnetic switch and overload protection.

2265 Jointer (8″)

Woodworking: advanced

Long bed; floor model with totally enclosed metal stand to include right and left titling fence, knife safety guards for both front and rear, individual table adjustment for infeed and outfeed tables, and rabbeting capacity of ½″. Motor: 1½ HP, 60 cycles, 3-phase, 220V, with magnetic switch and overload protection.

2275 Jolt Squeezer, Foundry

Metalworking: advanced

Table size 17″ x 20″; diameter 10″; capacity 6,000 lbs.; maximum jolt load 400 lbs.; variable distance from table to squeeze plate from 11″ minimum to 17″ maximum; to operate on 80 lbs. air line pressure.

2280 Kiln Cut-off, Automatic (heat control device)

Ceramics: beginning, advanced

Automatic shut-off for both gas and electric kilns; for temperatures to 2500°F; able to set meter-relay pointer at a pre-determined temperature; uses pyrometric cones to trigger switch action.

2285 Kiln, Electric

Ceramics: beginning, advanced

Elementary

General Shop

Firing chamber 6½″ x 7″ x 4″; 172 cu. in.; temp. 3000°F; firing time to 1500°F in 35 minutes; 110V AC; 14.5 Amp; 2 firing speeds; wt. 50 lbs.

2290 Kiln, Enameling

Ceramics: beginning, advanced

Elementary

General Shop

Designed for enameling. 110V AC; case-welded steel construction; heating elements in sides of kiln; interior 4″ x 8½″ x 8″; gravity-type door, self sealing, with peephole; wt. 31 lbs; 10 Amps.

2295 Kiln, Front loading

Ceramics: beginning, advanced

General Shop

For temperatures to 2000°F, 18″ x 18″ x 19″ chamber. 220-230V AC.

2300 Kiln, Gas

Ceramics: beginning, advanced

Front loading, forced-draft; for temperature to 2500°F; automatic cut-off controls; 20 cu. ft.; chamber 32″ x 24″ x 46″.

2305 Kiln, Starter

Ceramics: beginning, advanced

For starting or stopping kiln automatically at clock-timed intervals.

2310 Kiln, Top loading

Ceramics: beginning, advanced

Electric; for temperatures to 2300°F, (cone 8) 17″ x 17″ x 18″ chamber.

Knife, Bevel point (see: Knife, Skiving #2365)

2315 Knife, Carving (set)

Drafting: advanced

Elementary

To include three blade holders; #1, #2, #6 knives; assorted extra blades; with box fitted for all parts.

2320 Knife, Electrician's

Electricity-Electronics: beginning, advanced

With screwdriver blade and insulation scraper.

2325 Knife, Fettling

Ceramics: beginning, advanced

For cleaning up greenware and for hand building work; thin and flexible.

2330 Knife, Head

Elementary

For leather work; 4½″ from point to point; 2⅜″ at center.

2335 Knife, Ink

General Shop

Graphic Arts: beginning, advanced

Square end; 8″.

2340 Knife, Leather

General Shop

Square end.

2345 Knife, Make ready and stripping

Graphic Arts: beginning, advanced

#12 "Exacto".

2350 Knife, Mold maker's

Ceramics: beginning, advanced

For mold work and general carving; blue finish; round white handle; blade length 4¾″

2355 Knife, Padding
Graphic Arts: beginning, advanced
Round end.

2360 Knife, Putty
Elementary
General Shop
Woodworking: beginning, advanced
Approximately 1″W; flexible tool steel blade.

2365 Knife, Skiving
Elementary
General Shop
Bevel point.

2370 Knife, Sloyd
Elementary
General Shop
Woodworking: beginning, advanced
Blade approximately 2⅝″L.

2375 Knife, Stencil
General Shop

2380 Knife, Swivel cutter
Elementary
General Shop
Chrome plated; hardened tool steel.

2385 Knurling Tool, Lathe (coarse)
Metalworking: advanced
Self centering; coarse diamond.

2390 Knurling Tool, Lathe (fine)
Metalworking: advanced
Self centering; fine diamond.

2395 Knurling Tool, Lathe (medium)
Metalworking: advanced
Self centering; medium diamond.

2400 Ladle, Bottom pour
General Shop
5″ diameter of bowl.

2405 Lamps, Drying (set)
Auto and Power Mechanics: advanced

2410 Lathe, Armature
Auto and Power Mechanics: advanced

2415 Lathe, Metalworking (10″)

Auto and Power Mechanics: advanced

General Shop

Metalworking: beginning, advanced

Plastics: advanced

Minimum distance between centers 24″; cabinet model; underneath drive; quick change gear box; 54 thread and spindle changes L.H. or R.H. from 4 to 224; speeds from 50 to 1500 RPM; motor: ¾ HP, 208-220V, 3-phase, drum switch and magnetic starter. Equipped with drive plate, spindle adapter, centers for head-stock and tailstock, tool post, ring and rocker, thread chasing dial and tool post wrench, 3-jawed chuck, 4-jawed chuck.

2420 Lathe, Metalworking (14″)

Metalworking: advanced

Minimum distance between centers 36″; capacity through spindle 1-1/16″; cam lock spindle nose; center Morse Taper #3; spindle speeds: direct drive 215 to 875 RPM, backgeared 30 to 130 RPM; quick change gear box 4 to 224 threads per inch; tailstock spindle #3 Morse Taper; thread indicator dial; with 3-jawed and 4-jawed chuck; taper attachment, face plate; tool post assembly; centers and spindle sleeve; motor: 2 HP, 220V, 3-phase, pushbutton line starter control-forward, reverse, stop and magnetic reversing linestarter.

2430 Lathe, Spinning (12″)

Metalwoking: advanced

Plastics: beginning, advanced

Variable speed drive; speeds 650 to 3450 RPM; 1 HP motor; 220V; 3-phase; magnetic starter; metal spinning face plate; spinning tool rest with fulcrum pins; spinning center; spur center and cup center; set of metal spinning tools; set of wood turning chisels.

2435 Lathe, Wood turning

General Shop

Plastics: beginning, advanced

Woodworking: beginning, advanced

12″ gap bed floor model with enclosed metal cabinet with 16½″ capacity over gap and at least 38″ between centers. Motor ¾ HP, 60 cycles, 220V, 3-phase with mounted switch and overload protection. To include cup center, spur center, 3 face plates, 1—6″ tool rest, 1—12″ tool rest, 1 tool support base, 1 knockout bar.

2440 Leads (2 point) (25 lb. pkg.)

General Shop

2445 Leather Modeling Tool (set)

General Shop

2450 Leggings, Molder's (pair)

General Shop

Metalworking: beginning, advanced

2455 **Lettering guide line instrument**

Drafting: beginning, advanced

Transparent plastic disk in plastic frame; produces uniformly spaced lines; holes in disk produce letters in proportions of 3/5, 2/3, or 1/1; will produce 65° and 75° direction lines; graduated in 32nds of an inch and may also be graduated in millimeters.

2460 **Lettering Set**

Drafting: advanced

General Shop

Professional quality; 11 templates with standard capital and lower case letters on each; size .080CL, .100CL, .350CL, .425CL, .500CL; in polished mahogany case; 11 pens sizes 000, 00, 0, 1, 2, 3, 4, 5, 6, 7, 8; adjustable scriber; scriber stand; lead clutch; socket holder; and pen holder.

2465 **Level**

General Shop

Woodworking: beginning, advanced

Two double plumbs, one double level. 24″ long.

2470 **Lift, Engine safety**

Auto and Power Mechanics: advanced

(Engine Lifting Cable) 30″L including hook and adapter; 2 ton capacity: safety saddle permitting tilt adjustment.

2475 **Lift, Pallet**

Ceramics: beginning, advanced

Hydraulic: hand truck.

2480 **Light, Darkroom**

Graphic Arts: beginning, advanced

Red; amber, or as appropriate to film.

2485 **Light, Flood**

Graphic Arts: beginning, advanced

10″.

2490 **Light, Extension**

Electricity-Electronics: advanced

Miniature extension probing light.

2495 **Locks, Magnetic galley**

Graphic Arts: beginning, advanced

2500 **Loom, Table**

Elementary

4 harness; 8″ weaving space; pressed steel.

2505 **Machine, Drafting (18°)**

Drafting: advanced

General Shop

18″ drafting machine with 15° automatic indexing, full circle base line setting, fully graduated protractor, disc brake, and self-locking scales, of one each 9″ and 18″.

2510 **Machine, Drafting (24″)**

Drafting: advanced

Track-type; with standard protractor head; automatic 15° indexing; protractor divided to 1 degree with vernier scale for sub-division of degrees; full 360 degree baseline setting; positive braking system; locks for both horizontal and vertical movement or either; may be specified for appropriate board size, usually 29″ x 40″ or larger; with one 12″ and one 18″ scale.

2515 **Machine, Reproduction (dry type)**

Drafting: beginning, advanced

Dry diazo white printer; table model; synchronized printing and moist developing up to 14 foot per minute; minimum lamp rating 35 watts per inch; width capacity 42″; current 115V; 60 cycle AC; a system to exhaust ammonia fumes from the room is desirable with this type of machine.

2520 **Machine, Reproduction (moist type)**

Drafting: beginning, advanced

General Shop

Moist diazo white printer; table model; synchronized printing and moist developing up to 14 foot per minute; minimum lamp rating 35 watts per inch; width capacity 42″; current 115V; 60 cycle AC.

2525 **Magnifiers**

Graphic Arts: beginning, advanced

Etcher's type; 10X; for negative examination.

2530 **Magnet, Bar**

Electricity-Electronics: beginning, advanced

Cobalt steel ALNICO type; minimum size ¼″ x ½″ x 3″.

2535 **Mallet, Hardwood**

General Shop

Metalworking: beginning, advanced

Woodworking: beginning, advanced

2540 **Mallet, Rawhide**

Auto and Power Mechanics: beginning, advanced

Elementary

General Shop

Graphic Arts: beginning, advanced

Metalworking: beginning, advanced

Plastics: beginning, advanced

Woodworking: beginning, advanced

10 oz.

2545 **Mallet, Rubber**
Auto and Power Mechanics: beginning, advanced
Metalworking: beginning, advanced
Length of head approximately 3½"; rubber face approximately 2"; hickory handle.

2550 **Mandrel, Expansion (set)**
Metalworking: advanced
Range ⅜" to 2½"; includes sizes ¼", 5/16", ⅜", 7/16", ½", ⅝", ¾", ⅞", 1".

2555 **Mandrel Set**
Metalworking: advanced
Includes sizes ¼", 5/16", ⅜", 7/16", ½", ⅝", ¾", ⅞", 1".

2560 **Marker, Felt-tip, Color (set)**
Elementary
Graphic Arts: beginning, advanced

2565 **Marking Tool, Electric**
Drafting: beginning, advanced
Tantalum carbide point.

2570 **Mason's Tools, Cement (set)**
Ceramics: beginning, advanced

2575 **Meter, Ammeter (AC)**
Electricity; beginning, advanced.
General Shop
Range 0-25 amps.

2580 **Meter, Ammeter (DC)**
General Shop
Range 0-10 amps.

2585 **Meter, Battery tester**
General Shop
Electricity-Electronics: beginning, advanced
Switch positions 1.5, 4.5, 6.0 7.5, 9.0, 22.5, 45, 67.5, 75, 90 volts.

2590 **Meter, Galvanometer**
Electricity-Electronics: advanced
Woodworking: advanced
500-0-500 micro amperes.

2595 **Meter, Grip dip**
Electricity-Electronics: advanced
400 KC to 250 MC.

2600 **Meter, Light**
Graphic Arts: beginning, advanced

For measurement of reflected and/or incident light; for film speeds to 12,000 ASA; case and neck strap included; (if of Cd.S. type, should include mercury battery power supply).

2605 Meter, Moisture content (electric)

Woodworking: advanced

2610 Meter, Volt-ohm (multi-range)

Electricity-Electronics: advanced

General Shop

Woodworking: advanced

Sensitivity @ 20,000 ohms/volts D.C. Minimum voltage ranges: 0-1500V. Resistance ranges covering 0-1000 megohms; overload protected.

2615 Meter, VTVM

Electricity-Electronics: advanced

General Shop

Broad ranges and overload protection.

2620 Micrometer, Inside (set)

Auto and Power Mechanics: beginning, advanced

Metalworking: beginning, advanced

Range 2″-12″ graduations in thousandths of an inch; 10 measuring rods and one ½″ gauge encase solid rods; hardened and ground anvils on rods; adjustable for length; hardened and ground screw.

2625 Micrometer, Outside (1″)

Auto and Power Mechanics: beginning, advanced

Drafting: advanced

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

Graduated in .001″; hardened and ground threads; with spindle lock and ratchet adjustment.

2630 Micrometer, Outside (2″)

Auto and Power Mechanics: beginning, advanced

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

Graduated in .001″; hardened and ground threads; with spindle lock and ratchet adjustment.

2635 Micrometer, Outside (3″)

Auto and Power Mechanics: beginning, advanced

General Shop

Metalworking: beginning, advanced

Graduated in .001″; hardened and ground threads; with spindle lock and ratchet adjustment.

2640 **Micrometer, Outside (4″)**

Auto and Power Mechanics: advanced

Graduated in .001″; hardened and ground threads; satin chrome finish; with spindle lock and ratchet adjustment.

2645 **Micrometer, Outside (5″)**

Auto and Power Mechanics: advanced

Graduated in .001″; hardened and ground threads; satin chrome finish.

2650 Micrometer, Outside (screw thread)

Metalworking: advanced

Pitch diameters 0 to 1″ graduated in .001″; 8 to 13 threads per inch.

2655 **Micrometer, Outside (screw thread)**

Metalworking: advanced

Pitch diameters 0 to 1″ graduated in .001″; 14 to 30 threads per inch.

2660 **Microscope**

Plastics: advanced

Woodworking: beginning, advanced

10x Hygenian eyepiece with pointer, triple revolving nosepieces; 3 standard objectives: 4x, 10x, 43x; plain stage with side clips; fixed in stage condenser; iris diaphragm; in base illuminator.

2665 **Milliammeter, Volt-ohm**

Auto and Power Mechanics: advanced

Factory-wired and calibrated; fuse-protected ohms-divider network; easy-to-read scales; polarity reversal switch; full-wave bridge rectifier; standard ohm ranges; with probe and cable.

2670 **Milling Machine, Horizontal**

Metalworking: advanced

No. 2 Knee and Column, plain style. Specifications may vary according to need—these features, however, should be considered: fast, easy feed selection, directional feed controls, power rapid traverse, built-in backlash eliminator, spindle speeds selections, convenient electrical controls, ruggedness of construction, trip dogs and positive safety stops, easy chip removal and sump cleaning, anti-friction bearings, positive lubrication, safety features and simplicity of maintenance; includes Morse taper adaptor.

2675 **Milling Machine, Universal**

Metalworking: advanced

Spindle C/L to table top with cutterhead horizontal 0 to 23″, spindle nose to table top with cutterhead vertical 0 to 17″ with adjustable cutterhead that can be positioned through a full 90° for vertical, angular, or horizontal milling. Other features to be considered: gib design, spindle drive motor, feed motor, coolant system, table working surface, saddle, ram, overarm, feed ranges, spindle speeds, controls, and lubrication.

2680 **Milling Machine, Vertical**

General Shop

Metalworking: advanced

Approximate range 9″ x 40″ table working surface, longitudinal table travel 26″, cross travel 10″, vertical travel of knee 18″, vertical travel of spindle 5″, turret to rotate 360° on column, head to rotate 360° on ram. Other features to be considered: gibs, accuracy and movement of all bearing surfaces, spindle bearings, spindle tapers, spindle speeds, 4-way head, balanced pulleys, power feed table, motors and electrical controls.

2685 **Mitering Machine**

Graphic Arts: beginning, advanced

Miters to 45°; square ends of rules; gauge sets to 63 Picas by Picas and nonpareils.

2690 **Mitre Box**

Elementary

General Shop

Woodworking: beginning, advanced

26° x 4″ back saw; 8¼″ right angle capacity.

2695 **Mixer, Slow speed (portable)**

Ceramics: beginning, advanced

Motor or air driven. ¼ HP, dip proof, ball bearing motor attached to gear box. Stainless steel shaft is adjustable. To 8″ diameter stainless propellers are furnished. 400 RPM.

2700 **Mixing Bowls (set)**

Plastics: beginning, advanced

Set of 3 sizes; stainless steel kitchen type.

2705 **Modeling Tool (set)**

Ceramics: beginning, advanced

Elementary

General Shop

Boxwood; fine wire pillard; kit of 10 modeling tools in plastic box.

2710 **Mold, Ingot**

General Shop

Metalworking: beginning, advanced

2715 **Molder, Blow**

Plastics: advanced

6″ x 12″ platen; cylinder approximately 2½″ bore, 2″ stroke; pneumatic operation; electronic cycling mechanism; provisions for connection to power and air.

2720 Molder, Rotational

Plastics: advanced

Variable speed drive 2 to 15 RPM, ¼ HP, 110V motor with reversing switch; mold area approximately 15″ diameter; oven 220V, 3-phase, temperature controlled 150°-600°F with circulating fan.

2725 Molding Press, Compression (large)

Plastics: beginning, advanced

Capacity 75 ton or more; two or more 220V, 3-phase electrically heated platens controlled from 200°-600°F; manual or motor operated hydraulic; platen size minimum 18″ x 18″; piston stroke 5″ minimum daylight opening; at least 8″ with 4″ removable adaptor.

2730 Molding Press, Compression (medium)

Plastics: beginning, advanced

Capacity 50 tons two 220V, 3-phase electrically heated platens controlled from 200°-600°F; manually operated two-stage hydraulic; platen size 12″ x 12″ minimum; piston stroke 5″ minimum daylight opening—at least 6″ with 4″ removable adaptor.

2735 Molding Press, Compression (small)

Plastics: beginning

Capacity 20-25 tons; two 220V, 3-phase electrically heated platens controlled from 200°-600°F; manually operated hydraulic; platen size 6″ x 6″ minimum; piston stroke 4″ minimum daylight opening—at least 6″ with 3″ removable adaptor.

2740 Molding Press, Injection (large)

Plastics: advanced

Capacity 3 oz. of styrene with appropriately rated mold size and clamping pressure; heaters 220V, 3-phase; motor operated hydraulic system; automatic and semi-automatic cycling.

2745 Molding Press, Injection (medium)

Plastics: beginning, advanced

Capacity 1½ to 2 oz. of styrene with appropriately rated mold size and clamping pressure; heaters 220V, 3-phase; motor operated pneumatic or hydraulic systems; automatic or semi-automatic cycling.

2750 Molding Press, Injection (small)

General Shop

Plastics: beginning

Capacity ¼ to ¾ oz. of styrene with appropriately rated mold size and clamping pressure; heaters 110V, single-phase; hand operated mechanical or pneumatic.

2755 Molding Press, Transfer (large)

Plastics: advanced

Capacity 75 tons or more on clamp; two electrically heated 220V, 3-phase heated platens; motor operated hydraulic; platen size 18″ x 18″ minimum; piston stroke approximately 5″; transfer force approximately 20 tons minimum; transfer stroke approximately 3″ minimum.

2760 Molding Press, Transfer (medium)

Plastics: advanced

Capacity approximately 50 tons on clamp; two electrically heated 220V, 3-phase platens; hand or motor operated hydraulic; platen size 12" x 12" minimum; piston stroke approximately 5"; transfer force approximately 15 tons; transfer stroke approximately 3".

2765 Molds, Ceramics (assorted)

Ceramics: beginning, advanced

General Shop

For slip casting.

2770 Mortar and Pestle

Ceramics: beginning, advanced

Acid resistant, thick chemical porcelain; possesses a surface texture which facilitates grinding.

2775 Mortar Box

Ceramics: beginning, advanced

2780 Mortiser, Hollow chisel

Woodworking: advanced

Floor model with ½" mortise capacity and to handle stock up to 20"L. Complete with compound table and lateral adjustments, hold down attachment and foot lever control. Machine to include one each of the following drills and hollow chisel bits: ¼", 5/16", ⅜", 7/16", and ½" and ¼" and 5/16" bit bushings. Motor: 1 HP, 60 cycles, 220V, 3-phase with mounted switch and overload protection.

2785 Motor Stand, Universal

Auto and Power Mechanics: advanced

2000 lb. capacity; 360° rotation; stop in any position.

2790 Muller-Mixer

Ceramics: beginning, advanced

Blends dry ceramic bodies quickly, uniformly, and completely, ready for preparation for throwing, dry pressing. Cast aluminum drum—diameter 13¼", depth 6¾"; hinge door at bottom. Two cast aluminum muller wheels 6¼" diameter x 1½". Chromium plated scraper blades. 1/3 HP, 115V AC-DC. 3-wire cord and plug.

2795 Multiscope

Auto and Power Mechanics: advanced

2800 Nail Set (1/16" tip)

Elementary

General Shop

Plastics: beginning, advanced

Woodworking: beginning, advanced

Square head.

2805 Nail Set (3/32″ tip)
Elementary
Woodworking: beginning, advanced
Square head.

2810 Needle, Binding
Graphic Arts: beginning, advanced

2815 Needle, Knitting (pair)
Elementary
10″ standard length.

2820 Needle, Lacing
General Shop

2825 Needle, Raffia (card)
Elementary
Card of 2 needles: 1 straight, 1 curved.

2830 Nibbler, Hand operated
Electricity-Electronics: beginning, advanced
Capacity: 18 ga. steel.

2835 Nipper, End-cutting
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
6″; compound lever action.

2840 Nipper, Tile
General Shop
Carbide cutting edges.

2845 Nozzle, Blow gun (air line)
Auto and Power Mechanics: beginning, advanced
Woodworking: beginning, advanced
Forged brass body; air blast controlled by pressure button.

2850 Numbering Machine, Cleaner box
Graphic Arts: beginning, advanced
Removable celaning section.

2855 Numbering Machine, Hand
Graphic Arts: beginning, advanced
6 wheel machine; five movements: duplicate, triplicate, quadruplicate, consecutive, repeat; drop cipher.

2860 Numbering Machine, Press
Graphic Arts: beginning, advanced
General Shop
6 wheel; forward and backward movement; lowplunger.

Nutdriver (see: Wrench, Nutdriver #5330).

2865 **Oiler, Bench**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
1/3 pint or ½ pint size; 5" straight spout.

2870 **Oiler, Pump**
Auto and Power Mechanics: beginning, advanced
Graphic Arts: beginning, advanced
Woodworking: beginning, advanced
5 oz. capacity; trigger operated spout approximately 5"L; seamless construction.

2875 **Oiler, Straight**
Auto and Power Mechanics: beginning, advanced
½ pint.

2880 **Oilstone, Arkansas**
Drafting: beginning, advanced
Wedge-shaped; tapering from ¼" to very thin edge; fine grain for sharpening ruling pen nibs.

2885 **Oilstone, Carving tool slips (set)**
General Shop
Woodworking: beginning, advanced
India stones.

2890 **Oilstone, Combination, India**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Coarse and fine grits; 8" x 1" x 2".

2895 **Oilstone, Combination, Silicon carbide**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced

General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Coarse, fine; 8″ x 1″ x 2″.

2900 Oilstone, Gouge slip
General Shop
Woodworking: beginning, advanced
India stone.

2905 Oilstone, Slip
General Shop
Woodworking: beginning, advanced
India stone.

2910 Oscilloscope
Electricity-Electronics: beginning, advanced
General Shop
Z axis input; positive lock internal synchronization; DC or MC wide band scope with 5″ screen.

2915 Oven
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: advanced
Laboratory type for heating plastics; 0-550°; inside dimensions approximately 12″W x 10″H x 10″D; with adjustable shelf; complete with switch and automatic thermo control. 220V, 3-phase, or 110V, single-phase; safety vented.

2920 Oven, Core
Metalworking: advanced
Laboratory type for heating plastics; 0-550°; inside dimensions approximately 12″W x 10″H x 10″D; with adjustable shelf; complete with switch and automatic thermo control. 220V, 3-phase; or 110V, single-phase.

2925 Packer, Wheel bearing
Auto and Power Mechanics: beginning, advanced

2930 Pad Counter
Graphic Arts: beginning, advanced
Stabbing type; 3″ adjustable for measuring equal size pads.

2932 Pan, Dust
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced

Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
12″ steel.

2935 **Pantograph, Drafting**
Drafting: advanced
21″ hardwood bars scaled for reducing or enlarging subjects up to 25 ratios. Metal tracer and lead holder point.

2940 **Pantogaph, Metalworking**
Plastics: advanced
2 or 3 dimensional; enlargement up to 1:16. 220V, single-phase, appropriate cutters.

2945 **Parallels, Adjustable (set)**
Metalworking: advanced
Set of 6 with capacity range ⅜″ to 2¼″.

2950 **Pen Holder**
Drafting: advanced
Wood or metal with cork or rubber grip; protruding metal nib; 6″ to 7″ in length.

2955 **Pen Set**
Drafting: advanced
General Shop
One each: Crow quill pen, flexible quill pen, hawk quill pen, mapping pen, imperial or medium pen, drawing pen (round pointed), artist pen (medium size), Crow quill pen holder, regular pen holder.

2960 **Pen, Speedball (set)**
Drafting: advanced
General Shop
Includes style A, sizes A-0 to A-5; style B, sizes B-0 to B-6; style C, sizes C-0 to C-6; style D, sizes D-00 to D-5.

2965 **Pencil Pointer, Lead pencil**
Drafting: beginning, advanced
General Shop
Pencil file; hardened tool steel with wood handle; 6″L.

2970 **Pencil Pointer, Mechanical**
Drafting: beginning, advanced
With abrasive cup; all metal unit; non-skid base.

2975 Pencil Sharpener, Draftsman's
Drafting: beginning, advanced
With removal cutters; adjustable setting head; self-feeding.

2980 Pencil Sharpener, Standard
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Adjustable setting head; self-feeding.

2985 Pencil, Woodburning
Elementary
General Shop
Replaceable element; interchangeable tips.

2990 Perforator
Graphic Arts: advanced
Bench model; 19" capacity; with interchangeable heads.

2995 Pipet Control, Microsyrnge
Plastics: advanced

3000 Plane, Block
Elementary
General Shop
Woodworking: beginning, advanced
1⅝" cutter.

3005 Plane Iron, Double
Woodworking: beginning, advanced

3010 Plane, Jack
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
14"L; cutter 2" wide.

3015 Plane, Jointer
General Shop
Woodworking: beginning, advanced
22"L; cutter 2⅜" wide.

3020 **Plane, Junior jack**
General Shop

3025 **Plane, Portable, Electric**
Woodworking: advanced
16″ complete with spiral cutter, cutter sharpener, grinding wheel spacers, electric cord with 3-prong electic plug, and metal carrying case. (Note: Plane attachment can be purchased for use with portable electric router shaper).

3030 **Plane, Rabbet**
Woodworking: beginning, advanced
4″L; 1″ cutter.

3035 **Plane, Router**
Woodworking: beginning, advanced
With 3 cutters (¼″, ½″, and V).

3040 **Plane, Smoothing**
Elementary
General Shop
Woodworking: beginning, advanced
Length: 9″; blade width: 1¾″.

3045 **Planer, Type**
General Shop
Graphic Arts: beginning, advanced
1¾″ x 3″ x 1½″ and 3¼″ x 8″ x 2½″ (suggest two sizes needed); maple wood; varnished; leather top; shaped for ease in handling.

3050 **Plaster Working Tool**
Ceramics: beginning, advanced
Made of hand forged, hand ground, highly tempered tool steel. Average length 7″. Six tools available in plain, chisel, and toothed edges.

3055 **Plate, Angle**
Metalworking: advanced
4″ x 5″ x 6″.

3060 **Plate, Surface**
Metalworking: advanced
10″ x 15″; hand scraped.

3062 **Plate-maker**
Graphic Arts: beginning, advanced
Approximately 24″ capacity with "flip-top"; vacuum contact plate; xenon light; 110/220 with ground wire.

3065 **Pliers, Battery**
Auto and Power Mechanics: beginning, advanced

Heavy duty gripping; 6-7/16″L; 2 postion slip-joint; nickel chrome plated; wire cutter; serrated throat.

3070 Pliers, Bent nose
General Shop
6″.

3075 Pliers, Brake
Auto and Power Mechanics: beginning, advanced
All purpose; Bendix socket on handle.

3080 Pliers, Chain
Auto and Power Mechanics: beginning, advanced

3085 Pliers, Combination (6″)
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Forged steel, machined, hardened, and oil tempered.

3090 Pliers, Combination (8″)
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Forged steel, machined, hardened, and oil tempered.

3095 Pliers, Duckbill
Electricity-Electronics: beginning, advanced
8″.

3100 Pliers, Diagonal-cutting
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
6″; drop forged.

3105 Pliers, Electrician's
Elementary
General Shop
8″; side-cutting; forged steel, with plastic insulated handles.

3110 Pliers, End-cutting
General Shop
Plastics: beginning, advanced
Forged steel, hardened, oil tempered.

3115 Pliers, Hose clamp, Radiator and gas line
Auto and Power Mechanics: advanced
General Shop
2 position slip joint; for ¾″ to 2″ diameter; milled (fluted) jaws to hold clamp at right angles to handles; 8″L handles; plastic handles.

3120 Pliers, Ignition
Auto and Power Mechanics: beginning, advanced
Narrow jaws; 3 position slip joint.

Pliers, Lever, Wrench (see: Pliers, Vise-grip wrench #3170).

3125 Pliers, Lineman's
General Shop
6″; side-cutting; forged steel, machined, hardened, and oil tempered; with plastic insulated handles.

3130 Pliers, Long nose
General Shop
6″; side-cutter.

3135 Pliers, Needle nose
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
6″.

3140 Pliers, Retaining ring
Auto and Power Mechanics: beginning, advanced
8″ or 5″; designed to grasp retaining springs by their lugs; black lacquer finish.

3145 Pliers, Round nose
General Shop
6″; forged steel.

3150 Pliers, Side-cutting (6″)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Forged steel, machined, hardened, spring tempered handles.

3155 Pliers, Straight nose
Drafting: beginning, advanced
Plastics: beginning, advanced

Metalworking: beginning, advanced.
8"; combination; forced steel.

3160 Pliers, Tongue and groove
Plastics: beginning, advanced
("Channel-lock"). Length: 10"; capacity: 1½".

3165 Pliers, Tru-arc (#2)
General Shop
For replacing "tru-arc" rings on axles or shafts; for small engine work.

3170 Pliers, Vise-grip wrench
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
7"; easy release.

3175 Pliers, Waterpump
Auto and Power Mechanics: beginning, advanced
5 adjustments ("channel-lock"). 5 position slip joint; jaws parallel opening to 2"; 45° angle jaws; 21/64"T.

Plug Cutter (see: Bit, Plug cutter (set) #0330).

3190 Pneumatic Instruction Center (pneumatic power unit)
Auto and Power Mechanics: advanced
Universal mounting system; components suitable for teaching-learning; bench heavy steel top and frame, interior fitted for storage of components, master-keyed doors; instrument panel contains water manometer, mercury manometer, 160 lb. pressure gauge, rotameter, type flowmeter, air compessor controls including switch, fuse, pilot light and convenience outlet; ½ HP oilless compressor with 10 gal. ASME pressure tank, pressure switch and relief valve; circuitry of ⅜" plastic tubing, flexible, with hand-tite fittings; power requirement of 120V 5A, with 3-wire cord and grounded plug.

3195 Polisher, Body
Auto and Power Mechanics: beginning, advanced
Portable air polisher; RPM-4500.

3200 Potter's Wheel, Electric
Ceramics: beginning, advanced
General Shop
½ HP, 110/220V AC-DC motor; variable speeds 0 to 120 RPM; for-

ward or reverse; 14″ cast aluminum alloy throwing head; table 24″ x 30″. Water and shock-proof switch. 3-wire conductor with ground.

3205 **Potter's Wheel, Kick**
Ceramics: beginning, advanced
Seated type; welded tubular steel, kick wheel-iron casting machined to true balance 28″D weighs 115 lbs. A 1½ true-level track machined on rim for power attachment.

3210. **Potter's Wheel, Side-kick**
Ceramics: beginning, advanced
Standing type; welded construction; 14″ aluminum wheel head; removable; fiberglass pan; 75 lb. flywheel.

3215 **Power Supply, Low voltage**
General Shop
AC and DC; 0-15V; maximum 5 amperes.

3220 **Power Supply, Variable output**
Electricity-Electronics: beginning
General Shop
0-20V AC and DC at 10 amperes; fused or diode protected.

3225 **Power Supply, Variable output, Filtered**
Electricity-Electronics: advanced
General Shop
0-300V DC at 100 ma; with filament voltages.

3230 **Pre-expander, Polystyrene**
Plastics: advanced
Steam or electrical 220V, 3-phase; controlled densities from 1 lb. per cubic foot.

3235 **Press, Arbor**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: advanced
Auto and Power Mechanics: Hydraulic; 25 ton capacity; pressure gauge; 6″ ram travel; hand operated pump; 2 speed.
General Shop and Metalworking: 3 ton capacity gear driven.

3240 **Press, Block printing**
Elementary
Lever type; prints up to 8″ width paper.

3245 **Press, Copying**
Graphic Arts: beginning, advanced
11″ x 16″ capacity; ball and socket joint to connect main screw with plate.

3250 Press, Drill (15″)

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

15″ capacity; variable speed; #2 Morse taper in spindle; floor model; ½″ key chuck; tilting standard table; with ½ HP, 220V, 3-phase motor, and magnetic switch and starter.

3255 Press, Drill (17″)

Auto and Power Mechanics: beginning, advanced
Metalworking: advanced

Floor model; variable speed 300 to 3100 RPM; production table with raising and lowering mechanism; #3 Morse taper spindle; key chuck, ½″ capacity; belt and pulleys completely guarded; ¾ HP motor (minimum); 220V; 3-phase; push button magnetic control and starter.

3260 Press, Hot stamping

Graphic Arts: beginning, advanced

1″ type holder.

3265 Press, Hydraulic, Heated platen

Woodworking: advanced

Minimum capacity of 12 tons with 12″ x 12″ platen platen temperatures to be individually controlled and metered; daylight opening to be a minimum of 5″.

3270 Press, Offset

Graphic Arts: beginning, advanced

11″ x 15″; 3 cylinder; chain pile; delivery; tumbler grippers, two 1/3 HP, 110V, 60-cycle motors; including all standard equipment and safety guards.

3275 Press, Padding

General Shop
Graphic Arts: beginning, advanced

Bench model; quick adjusting to various size sheets and stock pile height; 12″ x 18″.

3280 Press, Platen

General Shop
Graphic Arts: beginning, advanced

12″ x 18″; handfed; power operated; guards; counter; fountain; variable speed; ½ HP, 220V, 3-phase, 60-cycle motor; with flywheel, pulley, and impression safety guards.

3285 Press, Platen, Automatic feed
Graphic Arts: advanced
10″ x 15″; with automatic wash-up; central lubrication system; two-up attachment; 220V, 3-phase, 60-cycle.

3290 Press, Platen, Hand lever
General Shop
Graphic Arts: beginning, advanced
6″ x 10″; with ink disc, depressable grippers, trucks tools and 3 chases. Stirrup handle, 2 rollers; with cabinet.

3295 Press, Proof
General Shop
Graphic Arts: beginning, advanced
Flat bed; impression cylinder; without grippers; base.

3300 Press, Proof, Reproduction
Graphic Arts: advanced
Hand operated; impression cylinder; gripper bar; base.

3305 Press, Rubber stamp
General Shop
Graphic Arts: beginning, advanced
Complete with thermostat, timer, bell, pilot light, temperature gauge, cord and switch; 1110 V.

3310 Printer, Contact
Graphic Arts: beginning, advanced
Beginning: 35 MM through 5/7; positive paper stops; stainless steel masks; automatic exposure switch; steel housing; 100V AC.
Advanced: Adjustable margins to 8″ x 10″; automatic time control; built-in safe light; built-in-paper and negative holder; 100V AC.

3320 Printmaker, Graphic arts
General Shop
Graphic Arts: beginning, advanced
12″ x 12″ steel bed; 10 x 14 Chase.

3325 Projection Box, Plastic
Drafting: beginning
3 plastic hinged planes about 12″ x 12″ per plane and base.

3330 Projection Box, Plastic, Instructor's
Drafting: advanced
Includes hinged plastic planes and base, suspension holes, devices to illustrate points, lines, and planes.

3335 Projection Box, Plastic, Student's
Drafting: advanced
Three 4″ x 4″ plastic planes hinged with cloth tape.

Projection Screen (see: Screen, Projection #3990).

3340 Projector, Filmstrip (35mm) and slide (2″ x 2″)

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

Self-contained in case with lens cover; threading push-in or automatic; slide carrier: 2″ x 2″ manual lateral construction; glass pressure plates: all glass pressure plates when used to be securely fastened with metal and no adhesive used; 115V AC; 60 cycles; blower cooled; minimum of 500W lamp. Slide feed: manual local, remote or automatic timed interval.

3345 Projector, Motion picture, Sound

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

16mm; 750-1000W, AC lamp; 6″ speaker; 12W amplifier; sound and silent speeds; reverse; still picture device. Separate tone and volume controls; 2-inch f/1.6 lens. 115V-120V AC, 750W lamp—with speaker in separate housing. With 400′, 800′, 1200′, 1600′ take-up reels; ASA approved.

3350 Projector, Overhead

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

Image stage 10" x 10"; 110-120V; 60-cycle electrical system; minimum length 14' of #16—3-wire cord; minimum 100 hourlamp capable of putting 1700 luimens on the screen; single off-on switch for both lamp and for motor; automatic thermal switch for running fan from 3 to 5 minutes after lamp is turned off; head with tilt mechanism up to 30°; focusing mechanism rack and pinion with knob for controls; heavy duty vinyl dust cover; size approximately 18" x 13" x 10½".

3355 **Protractor, Chalkboard**
Drafting: beginning, advanced
15" hardwood; with magnets, holding knob, hanger holes.

3360 **Protractor, Machinist's bevel**
Woodworking: beginning, advanced
12" blade; with level in cast iron head.

3365 **Protractor, Semi-circular**
Drafting: beginning, advanced
Elementary
General Shop
6" molded plastic, beveled edge; graduated in ½ degree increments from 0°-180°.

3370 **Pug Mill, Laboratory model**
Ceramics: advanced
Extrusion auger machine, de-airing type; tub size 9" x 4'; capacity in 8 hours 1500-2000 lbs.; weight 300 lbs.

3375 **Pug Mill, Studio model**
Ceramics: advanced
Mixes clay to throwing or modeling consistency; 1½ HP, single-phase motor; 58" x 30" x 2"; capacity 200-300 lbs./hr.

3380 **Pug Mill, Vertical**
Ceramics: beginning, advanced
12" vertical; weight 780 lbs.; 3 HP motor required; delivers pugged clay at rate of 18" per minute; 3" diameter.

3385 **Pug Mill, Extrusion**
Ceramics: beginning
Table model; with extrusion dies; 40"L x 8⅞"W x 9½"H; chromium plated to prevent corrosion and wear; 1/3 HP, 115V AC/DC motor; 90 lbs. unit weight; 100 lbs. of clay can be extruded per hour.

3390 **Puller Assembly**
Auto and Power Mechanics: beginning, advanced
(Harmonic Balancer Puller) designed for jobs with tapped holes, containing 4 slatted yoke to allow use of the tool in 2, 3 hole applications—center screw, swivel and spring, side screws 3 @ 5/16-18 x 2", 3 @ ⅜-24 x 2", 2 @ ⅜-16 x 4".

3395 Puller Assembly (large)
Auto and Power Mechanics: advanced
(2-way Puller Kit) inside and outside jaws heavy duty thread; steel yoke and adjusting nut; with accessories.

3400 Puller, Auto body metal (set)
Auto and Power Mechanics: advanced
Including 10 ton hydraulic unit; extension tubes; adjustable spoon blades.

3405 Puller, Axle
Auto and Power Mechanics: advanced
Universal puller.

3410 Puller, Freeze plug
Auto and Power Mechanics: advanced

3415 Puller, Gear (set)
Auto and Power Mechanics: advanced
(3 jaw reverse gear puller) reversible 3 jaws having a wide face on one end and narrow face on the other; sturdy center screw.

3420 Puller, Seal (set)
Auto and Power Mechanics: advanced
With adapters ranging from 1⅜-2-7/16.

3425 Puller, Steering wheel
Auto and Power Mechanics: advanced
Capable of removing all makes of steering wheels on cars and trucks; completely universal.

3430 Puller, Valve guide and valve
Auto and Power Mechanics: advanced
(Valve Puller) pulls valves on all makes of cars up to 1¾″ head diameter; direct pulling action; tapered pulling head to cradle valve; steel yoke.
(Valve Guide Puller) accessory to above; to remove valve guides 5/16″ diameter; shank knurled; nuts to be supplied to cover guide sizes 5/16″, 11/32″, ⅜″, 7/16″, ½″ guides.

3435 Puller, Wheel (set)
Auto and Power Mechanics: advanced
Combination slide, hammer and screw type puller containing 2/3 way yoke; 3 medium outside jaws, 2 small inside jaws; 3 large outside jaws; 13″ pressure screw; slide hammer shaft; booster hammer; combination yoke; locking collar; locking collar nut; disc spreader; set screw; yoke pin; centering adapter; spring retainer; bar handle; metal storage case.

3440 Pulverizer, Laboratory model
Ceramics: beginning
Casing accurately machined inside; fitted with removable head; grind-

ing spider made of one piece cast steel and machined; replaces mortar and pestle method of grinding clay samples.

3445 Pump, Oil drum
Auto and Power Mechanics: beginning, advanced
For 55 gal. drums.

3450 Pump, Slip, Duplex
Ceramics: advanced
For filter press assembly; laboratory type.

3455 Punch, Center (set)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics. beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Set of 5; 1/16″ to ¼″ diameter at tapered point; knurled grip; hardened at both ends.

3460 Punch, Chassis (round set)
Electricity-Electronics: beginning, advanced
General Shop
Two piece dies; ⅞″, ¾″, 1″, 1⅛″.

3465 Punch, Chassis (square set)
Electricity-Electronics: beginning, advanced
General Shop
Two piece dies; ½″, ¾″, 1″.

3470 Punch, Drift (set)
Auto and Power Mechanics: beginning, advanced
3/32″ to ½″ by 32nds.

3475 Punch, Drive (set)
Metalworking: beginning, advanced
Set of five; punch diameter ⅛″ to ⅜″; 8″L; round shank; knurled grip.

3480 Punch, Hand (set)
Elementary
Plastics: beginning, advanced
For light sheet metal; set of 7 punches and dies; 3/32″ to 9/32″; complete with metal box.

3485 Punch, Hollow (set)
Metalworking: beginning, advanced
⅜″, ½″, ⅝″, ¾″, 1″, 1½″, 2″.

3490 Punch, Leather, Revolving
Elementary
General Shop
6 tubes sizes; 8"L.

3495 Punch, Paper
Drafting: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Drafting: Multiple type; punches 1 to 4 holes simultaneously; with adjustable paper guide and punch depressors.
Graphic Arts: Table size, 12" x 18"; drill diameters, ⅛" to ⅜"; maximum capacity, 1½"; side and back margin guide; ¼ HP, 110V, 60-cycle, single-phase, AC motor.

3500 Punch, Pin (set)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Plastics: beginning, advanced
4"L; set includes diameters from 1/16" to ½" by 32nds.

3505 Punch, Tinner's (set)
General Shop

3510 Pyrometer, Optical
Ceramics: beginning, advanced
Shelf-contained; direct reading; light weight (3½" lbs.). Actual matching of brightness is achieved by making the apparent brightness of the glowing body equal to that of the standard light of constant intensity.

3515 Pyrometer, Portable
Ceramics: beginning, advanced
Elementary
Built into a metal case and comes with 30" thermocouple; range to 2500°F.

3520 Pyrometer, Radiation
Ceramics: beginning, advanced
For quick and accurate method of determining temperatures above 1000°F by thermo-electric principles.

3525 Quoin, Hi-speed
General Shop
Graphic Arts: beginning, advanced
3" and 9".

3530 Quoin Key, Hi-speed
General Shop
Graphic Arts: beginning, advanced

3535 **Rack, Enameling**
General Shop
4″ x 3″; mesh.

3540 **Rack, Glue clamp**
Woodworking: beginning, advanced
72″ x 36″ x 32″H; open top with sets of grooves to accept bar clamps three feet and over; lower center rail suitable for storing hand screws and C-clamps.

3545 **Rack, Lumber**
Plastics: beginning, advanced
Horizontal or vertical with storage for approximately 250 board feet of lumber; plywood and hard board storage provided for approximately 36 pieces 48″ x 96″.

3550 **Rack, Magazine**
Drafting: advanced
Magazine shelving, 60″H, 12″D, and 36″L; with shelves adjustable every inch; magazine shelves providing a convenient slope for display of current periodicals; storage behind.

3555 **Rack, Metal storage**
Metalworking: beginning, advanced
Plastics: beginning, advanced
All steel; vertical; approximately 4′W x 9′H; sloping front section with adjustable troughs for bar, rod, angle, etc.; back section open at both ends to accommodate 4′ x 8′ sheet stock.

3560 **Rack, Roll, Tympan**
Graphic Arts: beginning, advanced
18″; tension bar with brackets.

3565 **Rack, Roll, Wrapping paper**
Graphic Arts: beginning, advanced
24″; tension bar with brackets.

3568 **Rack, Roll, Wrapping paper**
Woodworking: advanced
36″; tension bar with brackets.

3570 **Radiator Test Plugs (set)**
Auto and Power Mechanics: advanced

3575 **Rammer, Hardwood**
General Shop
Metalworking: beginning, advanced

Rasp, Wood (see: Files #1540)

3580 **Ream, Center (set)**
Metalworking: beginning, advanced
60° included angle; high speed; sizes ¼″, ⅜″, ½″, ⅝″, ¾″.

3585 Reamer, Cylinder ridge

Auto and Power Mechanics: advanced

Range 2-11/16″ to 5-5/16″; full swivel yoke; will ream modern slant block engines as well as standard cylinders; tungsten carbide cutters.

3590 Reamer, Electrician's hand

Electricity-Electronics: beginning, advanced

⅛″ tip; tapered; 5″L.

3595 Reamer, Expansion (set)

Auto and Power Mechanics: advanced

Metalworking: advanced

Set of 8; A to H; semi-high speed steel blades.

3600 Reamer, Pipe

Metalworking: beginning, advanced

⅛″ to 1″; round shank.

3605 Reamer, Valve seat (set)

Auto and Power Mechanics: advanced

9/32″, 5/16″, 11/32″ expanding pilots; reamer arbor; 45° finishing reamers (1¼″, 1-5/16″, 1⅜″, 1½″, 1⅝″, 1¾″); 30° finishing reamers (1½″, 1⅝″, 1¾″); 20° narrowing reamers (1½″, 1⅞″); 70° narrowing reamers (1-7/16″, 1-11/16″).

3610 Reels, Drop cord

Auto and Power Mechanics: beginning, advanced

3 wire; 50′; heavy duty; U ground.

3615 Refacer, Valve (set)

Auto and Power Mechanics: advanced

General Shop

0-90 with positive stops at 14, 15, 19, 20, 29, 30, 44, 45, 90; flexible drive shaft; coolant tank; quick set valve stop; collets 9/32″ to 9/16″; diamond dresser; tappet holder.

3620 Reglets, Wood

General Shop

Assorted sizes in fronts.

3625 Remover, Stud (set)

Auto and Power Mechanics: advanced

Wedge type action; ½″ square drive; spring tension pin to hold wedges in place; 2 different sized wedges to increase usable range.

3630 Repair Kit, Drafting instrument

Drafting: advanced

Includes bearings, T-bolts and nuts, needle points to fit instruments in #2190 or #0925.

3645 Rethreader, Axle

Auto and Power Mechanics: advanced

For restoring damaged axle threads; clamp action; sizes ⅝″-18, ¾″-16, ⅞″-14, 1″-14, 1⅛″-12, 1¼″-12.

3650 **Rethreader, Spark plug hole**
Auto and Power Mechanics: advanced
Spark plug tap.

3655 **Rheostat, 10 ohm**
Auto and Power Mechanics: advanced

3660 **Riddle, Foundry**
General Shop
Metalworking. beginning, advanced
3-ply laminated frame; wire screen 8 mesh to the inch.

3665 **Rivet Set**
General Shop
Metalworking: beginning, advanced
Set of 5; sizes #3, #4, #5, #6, #7.

3670 **Riveter, "Pop" (set)**
Elementary

3675 **Router, Portable, Electric**
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
½ or ⅞ HP; with recessed switch; ¼″ collet capacity; dual knobs; micrometer depth adjustment; removable base; guide for straight and circular cuts; template guide; assorted cutters as needed; with 3 conductor plug and cord.

3680 **Rotary Machine, Combination**
General Shop
Metalworking: advanced
24 ga. capacity; depth of throat 7″; distance between shaft centers 2″; with crimping; beading; furnace offset edging; and offset rolls.

3685 **Rule, Brass**
General Shop
Type high.

3690 **Rule, Circumference (36″)**
Metalworking: beginning, advanced
Tinners with liquid and dry measure dimension tables; standard measurements to 8ths.

3695 **Rule, Flexible, Steel tape (6′)**
General Shop
Woodworking: beginning
½″ replaceable blade.

3700 Rule, Flexible, Steel tape (8′)
Elementary
General Shop
Woodworking: advanced
½″ replaceable blade.

3705 Rule, Flexible, Steel tape (10′)
Auto and Power Mechanics: beginning, advanced
Woodworking: beginning, advanced
¾″; with black markings on white background; plated steel case, 2″W; marked both edges in 16ths; first six inches upper edge to 32nd.

3710 Rule, Flexible, Steel tape (12′)
Drafting: advanced
Metalworking: beginning, advanced
¾″; with black markings on white background; plated steel case, 2″W; marked both edges in 16ths; first six inches upper edge to 32nd.

3715 Rule, Flexible, Steel tape (25′)
Woodworking: beginning, advanced
¾″; with black markings on white background; plated steel case, 2″W; marked both edges in 16ths; first six inches upper edge to 32nd.

3720 Rule, Flexible, Steel tape (50′)
Woodworking: advanced
¾″; with black markings on white background; plated steel case, 2″W; marked both edges in 16ths; first six inches upper edge to 32nd.

3723 Rule, Flexible, Steel tape (100′)
Drafting: advanced
Woodworking: Beginning, advanced
Jet black markings on ½″ chrome-white surface; figures and graduation bonded to line and protected by electroplating; rust resistant welded steel lines covered with leather; folding flush handle opened by push pin.

3725 Rule, Hook
Metalworking: advanced
12″L.

3730 Rule, Make-up
Graphic Arts: beginning, advanced
Polished tempered steel.

3735 Rule, Maple (24″)
General Shop
Brass tips.

3740 **Rule, Short (set)**
Metalworking: advanced
Short set of five; with holder; ¼″ to 1″.

3745 **Rule, Steel (6″)**
Metalworking: beginning, advanced
10ths, 100ths, 32nd, 64ths.

3750 **Rule, Steel (12″)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Graduated to 16th inch.

3755 **Rule, Steel (24″)**
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Graduated to 16th inch.

3760 **Rule, Steel (36″)**
General Shop
Woodworking: beginning, advanced
Graduated to 16th inch.

3765 **Sand Blaster**
Metalworking: advanced
Booth; sand blast gun; hose.

3770 **Sand Muller**
Metalworking: advanced
Capacity: approximately 25 pounds of dry material.

3775 **Sander, Band**
Elementary
Portable; may also be used for grinding; band 1″ x 42″; V-belt drive; complete with ½ HP motor; 110V AC; single-phase; 3 conductor cord.

3780 **Sander, Belt, Portable, Electric**
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
3″ x 24″ or 4″ x 24″; spur gear, belt drive, ball and needle bearings; with dust bag; 115V AC motor with 3 conductor cord.

3785 Sander, Combination belt and disc
General Shop
Woodworking: beginning, advanced
6″ belt and 12″ disc; floor model with metal stand; tilting table adjustable from 0° to 45° and slotted from mitre gauge; guarded to expose only moving sanding surfaces; tilting fence; belt adjustable to a vertical or horizontal position; motor: 1 HP, 60 cycles, 220V, 3-phase, magnetic switch and starter.

3790 Sander, Disc
Plastics: beginning, advanced
12″ minimum diameter; ¾ HP; 220V; 3-phase; tilting table or disc; mitre gauge magnetic switch and starter.

3795 Sander, Finishing, Portable, Electric
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
Heavy duty; ¼″ to ⅛″ orbital action; abrasive paper size ½ of standard sheet; trigger switch; 3 conductor cord.

3800 Sander, Finishing, Portable, Air
Auto and Power Mechanics: advanced
Orbital or straight line action; air driven.

3805 Sander, Handblock stroke
Woodworking: advanced
Six inch belt with stock capacity of 4″ thick and 60″ long, rolling table, 1 HP heavy duty motor, dust collector hood ready for connection to exhaust system, hand block, and with 3 each of 80 and 120 grit cloth abrasive belts.

3810 Sander, Spindle
Plastics: beginning, advanced
Woodworking: beginning, advanced
For 9″ oscillating abrasive sleeves. Throat plates and sleeves in standard sizes; table tilts to 45°; on floor stand with ½ HP 3-phase 220 motor with magnetic switch and starter.

3815 Sanding Drums (set)
Plastics: beginning, advanced
Woodworking: beginning
3″ x 3″ diameter with ½″ shank; 1¾″ x 2″ diameter with ½″ shank; 11/16″ x 2½″ diameter with ½″ shank; 1½″ x 1″ diameter with ½″ shank; 3″ x 3″ diameter with #2 Morse taper; 1½″ x 1″ diameter with #2 Morse taper.

3820 Saw, Back
Elementary
General Shop

Graphic Arts: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
12″.

3825 Saw, Band, Metal-cutting
Metalworking: advanced
18″ capacity; saw blade capacities from 1/16″ to 1″ wide, approximately 12′ long. With speeds of 50-2000 f.p.m.; including air blower, chip remover, tilting table, V-belt drive, assorted blade guides, and attached blade welding device; 220V, 3-phase with magnetic switch and starter.

3830 Saw, Band, Wood-cutting
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
14″ floor model complete with enclosed metal base, tilting table grooved for mitre gauge, and with ball bearing guides; motor: ½ HP, 60 cycles, 220V, 3-phase with magnetic switch and starter.
or: 20″ floor model complete with enclosed metal base, tilting table grooved for mitre gauge, foot brake, and with ball bearing guides; motor: 1½ HP, 60 cycles, 220V, 3-phase with magnetic switch and starter.

3835 Saw, Circular, Power
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
10″ floor model with enclosed metal base, tilting arbor, quick positioning rip fence, mitre gauge, and safety guard with splitter; motor: 1½ HP, 60 cycles, 220V, 3-phase with magnetic switch and starter.
or: 12″ floor model with enclosed metal base, quick positioning rip fence, mitre gauge, and safety guard with splitter; motor: 5 HP, 60 cycles, 220V, 3-phase with magnetic switch and starter.

3840 Saw, Compass (set)
Elementary
General Shop
Nest of 3 blades and 1 handle in set comprising compass keyhole and metal-cutting blade.

3845 Saw, Coping
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Plastics: beginning, advanced

Woodworking: beginning, advanced
6½″ pin-end, screw-type handle; adjustable to any angle; rigid frame.

3850 Saw, Hack (hand)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Die cast metal handle aluminum alloy; tubular body adjustable to receive 9″-12″ blade.

3855 Saw, Hack, Close quarter
General Shop
With very shallow depth, for limited clearance work.

3860 Saw, Hack, Power
General Shop
Metalworking: beginning, advanced
Plastics: advanced
Minimum capacity 6″ x 6″; swivel, (adv.) vise; automatic stop; pressure feed control; automatic lift on reverse stroke, built-in coolant tank and pump; ½ HP motor; 220V; 3-phase; magnetic push button starter.
or: Minimum capacity 5″ x 5″ swivel vise; automatic stop; automatic lift on reverse stroke; 1/3 HP motor; 220V; 3-phase; magnetic push button starter.

3865 Saw, Hand, Crosscut
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
22″ 10 point; straight back, highly polished, taper ground.

3870 Saw, Hand, Rip
General Shop
Woodworking: beginning, advanced
26″ 5½ point; straight back, highly polished, taper ground.

3875 Saw, Jeweler's (4″)
General Shop
Metalworking: beginning, advanced
4″D; adjustable frame with tension screw

3880 Saw, Jeweler's (6″)

Metalworking: beginning, advanced

6″D; adjustable frame with tension screw.

3885 Saw, Jig (scroll)

Elementary

General Shop

Plastics: beginning, advanced

Woodworking: beginning, advanced

24″; complete with metal stand; motor 1/3 HP, single-phase, 60-cycle, AC, 115V; equipped with starting switch, 3 conductor cord.

3887 Saw, Keyhole

Woodworking: beginning, advanced

10″ taper ground blade.

3890 Saw, Printer's trim

Graphic Arts: beginning, advanced

Micrometer gauge capacity, 78 pieces capacity in front of saw blade 20″, 24″ by undercutting; clamp open capacity 7″; clamp hold as short as 8 points; saw blade diameter, 7″; overall table dimension 18½″x 22½″; ½ HP, 220 V, 60-cycle, 3-phase motor; micrometer gauge, chip truck; 7″ diameter blade; 3 trimmer bits; standard safety guards.

3895 Saw, Radial-arm, Power

General Shop

Woodworking: advanced

10″ saw complete with stand, table extensions, floating saw guard, exhaust nozzle, safety reutrn reel, anti-kickback attachment, bevel positive stops of 0°, 45°, and 90°, mitre positive stops of 0°, 45° right and left; motor totally enclosed and fan cooled, 2 HP, 60 cycles, 200V, 3-phase with magnetic switch and starter.

3900 Saw, Sabre (bayonet)

Elementary

General Shop

Plastics: beginning, advanced

Woodworking: advanced

Portable; heavy duty; lightweight; aluminum housing; angle adjustment base; 115V, with cord and 3 conductor cord.

3905 Saw, Veneer

Woodworking: advanced

3910 Sawhorse

Elementary

Approximately 24″H x 48″L; flat top 2″ x 8″ or 2″ x 10″; for clamping material when sawing with coping saw. (Usually homemade.)

3915 Sawjack

Elementary

Wood; V-cut in end; approximately ⅝″ x 5″ x 10″. (Homemade.)

3925 Scale, Architect's

Drafting: beginning, advanced

General Shop

12″ triangular; boxwood; engine divided; graduations: 3/32, ⅛, 3/16, ¼, ⅜, ½, ¾, 1, 1½, 3″ each equalling 1′-0″.

3930 Scale, Chalkboard (demonstration)

Drafting: beginning, advanced

Minimum length 6′ triangular; can be rotated; with mounting brackets.

3935 Scale, Decimal, Civil engineer's

Drafting: advanced

General Shop

12″ triangular; boxwood; engine divided; graduations: 10, 20, 30, 40, 50, 60 parts to the inch.

3940 Scale, Household

Woodworking: advanced

Accuracy to ¼ ounce; capacity approximately 5 lbs.; dial adjustable to compensate for container weight.

3945 Scale, Laboratory

Ceramics: beginning, advanced

Plastics: beginning, advanced

Precision accuracy; reading is graduated in both avoirdupois and metric; will weigh 100 grams; pans are of acid-resistant aluminum.

3950 Scale, Mechanical engineer's

Drafting: beginning, advanced

12″ triangular; boxwood; engine divided; graduations: ½″ = 1′-0″, 3″ = 1′-0″, 4½″ = 1′-0″, 6″ = 1′-0″, 9″ = 1′-0″, full size, 1″ = 1′-0″.

3955 Scale, Metric

Drafting: advanced

12″ triangular; plastic; engine divided; graduations: 1 cm., 2 cm., 2.5 cm., 3 cm., 5 cm.

3960 Scale, Triple beam

Ceramics: beginning, advanced

310 gram capacity; direct-reading dial—10 grams to .01 gram; with 6″D removable pan, 6″D non-removable flat platform, and 12″ x 6″ x 2¾″ brass scoop.

3965 Scissors

Auto and Power Mechanics: beginning, advanced

Drafting: beginning, advanced

Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
8"; trimmer; paper shears.

3970 **Scoop, Plaster**
Plastics: beginning, advanced
Household sugar scoop type.

3975 **Scrape Granulator**
Plastics: advanced
Rotary knife type.

3980 **Scraper, Cabinet**
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
Malleable iron frame with 2¾" blade.

3985 **Scraper, Carbon**
Auto and Power Mechanics: beginning, advanced
Wire blades; high quality spring steel; flexibility controlled by movable ferrule.

3990 **Scraper, Flexible**
Ceramics: beginning, advanced
Spring steel in rectangle and half moon shapes; used for smoothing and trimming pottery shapes.

3995 **Scraper, Hand**
Elementary
General Shop
Plastics: beginning, advanced
Woodworking: beginning, advanced
Approximately 3" x 5" steel blade.

4000 **Scraper, Rigid**
Ceramics: beginning, advanced
For smoothing or cutting clay and plaster surfaces; scraper plain or toothed.

4005 **Screeding Wheel**
Plastics: beginning, advanced

Shop made; none commercially available; hand operated turn table approximately 18" diameter; mounting for screeds above.

Screen, Arc welding (see: Welding Screen, Portable #5205)

4010 Screen, Projection
Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
60" x 60"; vinyl mat-white; wall-mounted with brackets providing adjustment to correct for keystone effect.

4015 Screens, Halftone, Contact
Graphic Arts: beginning, advanced
Grey; magneta; pre-angled.

4020 Screwdriver, Cabinet tip
General Shop
4" and 6".

4025 Screwdriver, Clutch-head (set)
Auto and Power Mechanics: beginning, advanced
Plastic handles.

4030 Screwdriver, Insulated (set)
Electricity-Electronics: beginning, advanced
General Shop
Regular blades 3/16" and 9/32"; with 4", 6", and 8" shafts.

4035 Screwdriver, Offset, Phillips (set)
General Shop
Metalworking. advanced

4040 Screwdriver, Offset ratchet
Woodworking: beginning, advanced

4045 Screwdriver, Offset, Straight slot (set)
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
Set with tips of 3/16", 9/32", and 11/32".

4050 Screwdriver, Phillips (set)
Auto and Power Mechanics: beginning, advanced

Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
Set with points #1, #2, #3.

4055 Screwdriver, Retaining type
Electricity-Electronics: beginning, advanced
3/16″ blade, ⅛″ shaft, straight slot.

4060 Screwdriver, Spiral ratchet
Auto and Power Mechanics: advanced
Woodworking: beginning, advanced
With replaceable bits.

4065 Screwdriver, Standard bit (changeable blades) (set)
Elementary
Set of 5; standard tips 4″, 6″; cabinet tips 4″, 6″; Phillips tip #1 size.

4070 Screwdriver, Standard bit (round blade) (set)
Drafting: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Set of 5; blade widths of 3/16″, ¼″, 5/16″, ⅜″, ½″.

4075 Screwdriver, Standard bit (square blade) (4″)
Auto and Power Mechanics: beginning, advanced
Square shank; plastic handle.

4080 Screwdriver, Standard bit (square blade) (6″)
Auto and Power Mechanics: beginning, advanced
Drafting: beginning, advanced
Square shank; plastic handle.

4085 Screwdriver, Standard bit (square blade) (8″)
Auto and Power Mechanics: beginning, advanced
Square shank; plastic handle.

4090 Screwdriver, Standard bit (square blade) (10″)
Auto and Power Mechanics: beginning, advanced
Square shank; plastic handle.

4095 Screwdriver, Stanadard bit (square blade) (12″)
Auto and Power Mechanics: beginning, advanced
Square shank; plastic handle.

4100 Screwdriver, Standard bit ("stubby")
Auto and Power Mechanics: beginning, advanced
General Shop
Square shank; plastic handle.

4105 Scriber
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Complete with 3 points: 1 straight, 1 short bent, 1 long bent.

4110 Seamer, Handy
General Shop
Metalworking: beginning, advanced

4115 Sieve, Test laboratory
Ceramics: beginning, advanced
Made to exact standards of both U.S. Bureau of Standards and The National Bureau of Standards; solid polished brass or polished tinned steel; diameter 8″; mesh sizes 30 to 120.

4120 Setting Down Machine
Metalworking: advanced

4125 Sewing Machine
Elementary
Portable or upright; used domestically for sewing coarse materials, light leathers, etc.

4130 Shaper, Metal
General Shop
Metalworking: advanced
12″ to 15″ stroke; specifications to be included according to need: cutting speeds, table travel—horizontal and vertical, tool head, drive unit, lubricating system, drive unit including motor and switches, cross feed—power and hand, vise, and shaper tools.

4135 Shaper, Spindle (floor model)
Woodworking: advanced
Complete with interchangeable spindles 5/16″, ½″, ¾″, and 1″; adjustable fence, hold-down guides and fence guard assembly; motor: 1 HP, 60 cycles, 220V, 3-phase, including reversible switch and overload protection.

4140 Shear, Leather
General Shop
8″.

4145 **Shear, Ring and circle**

Metalworking: advanced

Minimum gauge: mild steel 20 ga.; minimum circle from square blanks 3½" to 24".

4150 **Shear, Squaring foot**

Electricity-Electronics: beginning, advanced

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

Minimum capacity mild steel 16 gauge; minimum cutting length 36" anti-pinch and toe guard.

4155 **Shearing and Forming Machine, Universal**

Plastics: advanced

Capacity 5/32" mild steel; throat 42"D; 1 HP, 220V, 3-phase motor; variety of cutting and forming tools.

4160 **Sheet Metal Tool**

Elementary

Vise grip forming and bending tool, jaw width ⅜"; throat depth 1¾"; length 8".

4165 **Shield, Face**

Auto and Power Mechanics: beginning, advanced

Ceramics: beginning, advanced

Electricity-Electronics: beginning, advanced

Elementary

General Shop

Graphic Arts: beginning, advanced

Metalworking: beginning, advanced

Plastics: beginning, advanced

Woodworking: beginning, advanced

Shatterproof; 6" shield; adjustable headband; hinged visor. (Must conform to ASA 22.1-1959.)

Eye shield. (For grinders) Fits all grinders; steel frame; fitted with safety glass; adjustable up, down and to tilt. (For woodworking, spot welding, metal sawing, etc.) (Lightweight, cushioned headband; full vision visor gives essential and adequate protection to face and eyes against impact; visor may be raised to set position; .040" thick, 4", 6" or 8"L. (Approved and exceed ASA Spec Z2.1-1959.)

4170 **Shovel, Square point**

General Shop

Metalworking: beginning, advanced

For foundry shoveling.

4175 **Sifter**

Ceramics: beginning, advanced

General Shop

Light weight plastic; 80 mesh screen; wire permanently sealed to plastic; twisted wire handle; small size 1″ diameter, large size 2″ diameter.

4180 **Signal Generator**
Electricity-Electronics: advanced
General Shop
Sine Wave range 20-200,000 c.p.s.; Square Wave range 60-50,000 c.p.s. RF and AF.

4185 **Signal Tracer**
Electricity-Electronics: beginning, advanced
Wide range demodulator; AC supply only.

4190 **Sign-maker Set**
Drafting: advanced
Includes guide holder, assorted guides for capital and lower case letters and numerals, brush and felt pens, and ink supply.

4195 **Silk Screen Unit**
General Shop
Graphic Arts: beginning, advanced
Printing frames; #12 silk; squeegee; ink; film sheets; film-cutting knives; lettering brushes; ink mixing knives; frame tape and register guides.

4200 **Sinks, Developing**
Graphic Arts: beginning, advanced
Temperature controlled; accommodates 3 20″ x 24″ trays; washer viewer; 110V AC.

4205 **Sinks, Platemaking**
Graphic Arts: beginning, advanced
Inside dimension 29″ x 40″ x 8″D; built-in spray pipe full length of sink; all-purpose side tray.

4210 **Siphon, Photo**
Graphic Arts: beginning, advanced

4215 **Skife**
Elementary
A tool for skiving leather, uses a narrow razor blade in a special frame.

4220 **Slab, Inking**
Elementary
Plate glass; for block printing; approximately 6″ x 6″ x ¼″T or heavier; ground and polished edges for safety.

4222 **Sleeves, Molder's**
Metalworking: beginning, advanced

4225 **Slick and Oval (1″)**
Metalworking: beginning, advanced

4230 **Slick and Oval (1¼″)**
Metalworking: beginning, advanced

4235 **Slugs (6 point) (25 lb. pkg.)**
General Shop

4240 **Snap Fastener (set)**
Elementary
General Shop
For beginning leatherwork; hexagonal setting tool; 4″ flat anvil and two bodkins.

4250 **Snip, Aviation (left)**
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
10″L; compound leverage.

4255 **Snip, Aviation (right)**
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
10″L; compound leverage.

4260 **Snip, Aviation (combination and straight)**
Elementary
General Shop
Metalworking: beginning, advanced
10″L; compound leverage.

4265 **Snips, Hawksbill**
General Shop
Metalworking: beginning, advanced
3″ cut.

4270 **Snips, Tin, Curved blade**
General Shop
Curved blade; 3″.

4275 **Snips, Tinner's, Straight (#8)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Steel laid.

4280 Snips, Tinner's, Straight (#10)
Metalworking: beginning, advanced
Steel laid.

4285 Socket, Deep spark plug (13/16″)
General Shop
⅜″ drive.

4290 Socket, Deep spark plug (1⅛″)
General Shop
⅜″ drive.

Socket Wrench (see: Wrench #5255-#5470)

4295 Soldering Copper, Electric (60W)
Electricity-Electronics: beginning
Elementary
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
¼″ copper tip with stand.

4300 Soldering Copper, Electric (200W)
Metalworking: beginning, advanced

4305 Soldering Copper, Electric (300W)
Metalworking: advanced

4310 Soldering Copper, Electric pencil
Electricty-Electronics: beginning, advanced
30W; tellurium tip; 7″ slim handle.

4315 Soldering Copper (pair) (½ lb.)
Metalworking: beginning, advanced

4320 Soldering Copper (pair) (1 lb.)
Metalworking: beginning, advanced

4325 Soldering Copper (pair) (1½ lb.)
Metalworking: beginning, advanced

4330 Soldering Copper (pair) (2 lb.)
Auto and Power Mechanics: beginning, advanced
General Shop

4335 Soldering Gun, Electric
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Dual-heat; spotlight; 240-325W.

Soldering Iron (see: Soldering Copper #4295-#4330).

4340 **Spacer, Leather marker**
General Shop
Size 6.

4345 **Spaces, Assorted fonts (6 point)**
General Shop

4350 **Spaces, Assorted fonts (8 point)**
General Shop

4355 **Spaces, Assorted fonts (10 point)**
General Shop
Graphic Arts: beginning, advanced

4360 **Spaces, Assorted fonts (12 point)**
General Shop
Graphic Arts: beginning, advanced

4365 **Spaces, Assorted fonts (14 point)**
General Shop

4370 **Spaces, Assorted fonts (18 point)**
General Shop
Graphic Arts: beginning, advanced

4375 **Spaces, Assorted fonts (24 point)**
General Shop

4380 **Spaces, Assorted fonts (30 point)**
General Shop

4385 **Spaces, Assorted fonts (36 point)**
General Shop

4390 **Sparklighter**
General Shop
Metalworking: beginning, advanced

4395 **Spatula**
General Shop
½" x 3" blade.

4400 **Spokeshave, Convex bottom**
Woodworking: beginning, advanced
Malleable iron frame.

4405 **Spokeshave, Straight**
General Shop
Woodworking: beginning, advanced
Malleable iron frame.

4410 Sponge, Bulb

General Shop

Rubber bulb; camel hair brush; 8 oz.

4415 Sponge, Elephant ear shape

Ceramics: beginning, advanced

Elementary

Fine grain; for finishing clay forms. Highly absorbent; for finishing pottery; ⅜″ thick average.

4420 Sponge, Sheep wool

Ceramics: beginning, advanced

Natural shaped Mediterranean; 4″-5″ diameter average size; soft.

4425 Spoon and Gate Cutter

General Shop

1″ wide; molder's tool.

4430 Spoons, Measuring (set)

Elementary

4435 Spout, Pouring, Oil can

Auto and Power Mechanics. beginning, advanced

1 qt.; pierce type; heavy gauge steel; hardened steel cutter for piercing oil cans; nickel plated.

4440 Spray Booth, Ceramic

Ceramics: advanced

24″ x 24″ x 28″; with 10″ electric exhaust fan; glass wool filters; with stand. (Must conform to ASA standards.)

4445 Spray Booth, Dry

Ceramics: beginning, advanced

Metalworking: advanced

Plastics: beginning, advanced

Woodworking: advanced

5′W, 7′H, 4′ working depth, 6′8″ overall depth; constructed of #18 ga. black iron panels, each panel formed with companion flanges punched on 10″ centers for bolted assembly; will have fire deflector curtain; rear of booth will be provided with a bank of (12) 20″ x 20″ x 2″ dry paper paint arrestor filter cells; each cell to contain (2) 20″ x 20″ x 1″ filter pads with snap-in grids; to include: 1 24″ diameter exhaust fan; one ½ HP, 220V, 60-cycle, 3-phase explosion-proof ball bearing motor; two 200W angle type explosion-proof reflectors and lamps; two light fixture mounting brackets; one [illegible]4″ diameter manual damper; one 24″ diameter 3′0″ long exhaust stack with access door; one oil and water extractor and pressure regulator. (Must conform to ASA standards.)

Ceramics: Bench type; 20 gauge sheet metal; bolts and flanges outside of booth for easy cleaning; equipped with distributing plate to equalize flow of air; 3′6″W x 6′1″H; working depth 1′11″; bench height 2′7″; ¼ HP fan motor required.

4450 Spray Gun (all-materials)

Plastics: beginning, advanced

Disposable container; (requires compressed air source).

4455 Spray Gun Outfit

Auto and Power Mechanics: advanced

General Shop

Metalworking: beginning, advanced

Woodworking: beginning, advanced

General purpose, removable spray head, external mix, with combination nozzle for general use, complete with cup for suction feed, hose, and fittings to complement available air supply.

4460 Spray Gun, Touch-up

Ceramics: beginning, advanced

Gun body of 1 piece aluminum; plated for surface protection; gun head of drop forged bronze; needle value of hardened steel.

4465 Spray Unit, Reinforced plastics

Plastics: advanced

Integrated segmenter for glass rovings and nozzle system to spray chopped rovings, resins, and catalyst; boom for mounting equipment; tanks for resins and catalyst; suitable pressure regulators and controls.

4475 Sprinkling Can

General Shop

Galvanized steel.

4480 Square, Combination

Electricity-Electronics: beginning, advanced

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

Woodworking: beginning, advanced

12″.

4485 Square, Combination set (with protractor and center head)

Drafting: advanced

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

12″.

4490 Square, Steel framing

Electricity-Electronics: beginning, advanced

Elementary

General Shop
Graphic Arts: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
12″ x 24″.

4495 Square, Try (6″)
Electricity-Electronics: advanced
Elementary
Woodworking: beginning, advanced

4500 Square, Try (8″)
Elementary
General Shop

4505 Square, Try (12″)
Woodworking: beginning, advanced

4510 Stake, Beakhorn
General Shop
Metalworking: beginning, advanced

4515 Stake, Bevel edge square
Metalworking: advanced

4520 Stake, Blowhorn
General Shop
Metalworking: beginning, advanced

4525 Stake, Bottom
Metalworking: advanced

4530 Stake, Candle mold
General Shop
Metalworking: beginning, advanced

4535 Stake, Conductor
Metalworking: advanced

4540 Stake, Coppersmith square
General Shop

4545 Stake, Double seaming
Metalworking: advanced

4550 Stake, Grooving
Metalworking: advanced

4555 Stake, Hatchet
General Shop
Metalworking: beginning, advanced

4560 Stake, Hollow mandrel
General Shop
Metalworking: beginning, advanced

4565 Stake, Needle case
Metalworking: advanced

4570 Stake, Round head
General Shop
Metalworking: advanced

4575 Stamp, Leather
Elementary
General Shop
Following tools may be purchased singly or in sets:
- Background tools (assorted)
- Tap Bevelers
- Pear Shaders
- Turn Backs
- Veiners, Barkers
- Camouflage
- Foxtail
- Dotflare
- Mulefoot
- Stops
- Seeder
- Sun Burst
- Basket Weave
- Acorn

Stamp, Leather; Number (see: Die, Letter #1250; Number #1255)

4580 Stand, Auto safety (2 ton)
Auto and Power Mechanics: beginning, advanced
2 ton capacity adjustable 15″-22″; with 10″ base.

4585 Stand, Auto safety (7 ton)
Auto and Power Mechanics: beginning, advanced
Adjustable 20″-30″.

4590 Staple Remover
General Shop

4595 Stapler, Hand
Drafting: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
8½″; throat depth 4″; staples; pins; tacks; desk model; open channel load takes full strip of 210 standard staples.

4600 Stapler, Saddle

General Shop

Graphic Arts: beginning, advanced

Throat depth 8″; handles full size 11″ x 17″ sheets; attaches to table or bench.

4605 Stilts, Kiln

Elementary

For supporting pottery while firing and glazing; assortment #1, #2, #3, #4, #5.

4610 Stool, Instructor's

Drafting: beginning, advanced

Swivel stool; with 17″ x 16″ thick foam rubber seat and adjustable, padded back rest; metal seat pan; with casters; height adjustable 28″ to 34″; all welded, 1″ tubular steel construction with chrome plated footring; (to be used with alternate teacher's desk, standing #1165).

4615 Stool, Student's, Adjustable

Drafting: beginning, advanced

General Shop

Metalworking: beginning, advanced

14″ square pressed-wooded seat with back; seat perforated for ventilation; stool is all welded non-breakable construction; legs taper out to insure against tripping; legs punched to permit 3″ height adjustment; seat height without adjustment, 26″; (to be used with #4670).

or: 14″ square pressed-wooded seat with back; seat perforated for ventilation; stool all welded, non-breakable construction; casters on legs; legs punched to permit 3″ height adjustment; seat height without adjustment 18″; (to be used with alternate drafting table specifications #4670).

4620 Stop, Bench

General Shop

To fit ¾″ hole.

4625 Storage Unit, Clay

Ceramics: beginning, advanced

Portable; of birch plywood, lined with galvanized steel; hinged top; bottom fitted with heavy duty casters; outside dimensions 24″ x 24″ x 28½″H.

Storage Unit, Sheet plastics (see: Cabinet, Sheet plastics storage #0610).

4635 Straight Edge, Parallel ruling

Drafting: advanced

Transparent plastic edges.

4640 Strap, Battery

Auto and Power Mechanics: beginning, advanced

12″L; heavy duty.

4650 String Holder, Cone

Graphic Arts: beginning, advanced

2½ lb. cord.

4655 Strip heater

Elementary

General Shop

Plastics: beginning, advanced

23″ minimum length; 110V, 250 watts; switch and pilot light.

4660 Surfacer (single surface planer)

General Shop

Woodworking: advanced

12″ x 5″ capacity; floor model; with enclosed metal base; with infeed and speed control; with clutch; motor driven; motor: 3 HP, 60 cycles, 220V, 3-phase; with switch and overload protection.

or: 18″ or 20″ capacity; floor model with enclosed metal base; with infeed and speed control with clutch and motor driven; and with sectional top infeed rolls and chip breaker; motor: 5 HP, 60 cycles, 220V, 3-phase with switch and overload protection.

4665 Table, Blueprint

General Shop

24″ x 60″; with drawer.

4670 Table, Dratfing

Drafting: beginning, advanced

General Shop

Metalworking: beginning, advanced

Woodworking: beginning, advanced

Overall size approximately 38″ x 28″ x 39″H; material either wood or metal; 4 post type; drafting surface maple top with zinc-plated steel end cleats, 28½″ x 28½″, adjustable height with fixed reference surface 10″ x 28½″. Board storage unit holds 6 boards up to 20″ x 26″, hardboard dividers, overall size approximately 11″ x 28″ x 23″; six-drawer storage unit for instruments and material storage, equipped with master-keyed locks, overall unit size approximately 11″ x 28″ x 23″, all drawers 9″W x 3½″H x 17″L. (To be used with 4615).

or: Overall size approximately 37½″ x 48″ x 29″H; material of wood; 4 post type; drafting surface maple top with zinc-plated steel end cleats, size 36″ x 48″, adjustable height to 60°; six-drawer storage unit for instruments and material storage, equipped with master-keyed locks, overall unit size approximately 11″ x 28″ x 23″, all drawers 9″W x 3½″H x 17″L; no board storage unit. (To be used with alternate 4615).

4675 Table, Finishing

Woodworking: beginning, advanced

1¼″ x 24″ x 60″ plywood top; covered with 22 gauge galvanized steel folded over and fastened underneath; heavy maple frame; ¾″ shelf with backstop.

4680 Table, General purpose

Graphic Arts: beginning, advanced

Table cabinet; heavy gauge steel; finished olive green or grey; hardwood top; sliding doors with nylon bearings and master-keyed cylinder lock; 30″D x 33″H in 5 or 6 foot lengths.

4685 Table, Opaquing

Graphic Arts: beginning, advanced

Beginning: adjustable light table; machine steel straight edges on 4 sides; non-glare glass; working area of 10″ x 25″.

Advanced: adjustable light table; 2 straight edges mounted on roller-bearing chains, right angles to each other; scales calibrated in 1/32″; 3-way flourescent light system; working area 24″ x 36″.

4690 Table, Overhead projector

Auto and Power Mechanics: beginning, advanced
Ceramics: beginning, advanced
Drafting: beginning, advanced
Electricity-Electronics: beginning, advanced
Elementary
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced

Portable; 26″H for stand-up height operation; 1 shelf near base; electrical accessory U.L. approved, 20′, #16 3-wire cord with double receptacle; mounted on 4 casters, 2 with braking mechanism.

4695 Table, Pilot press

Graphic Arts: beginning, advanced

Holds press, type chases and supplies; top covered with stainproof micarta; 24″ x 48″ x 31″.

4700 Table, Planning

Drafting: advanced

72″ x 30″ x 30″H; 1″ OD cold rolled steel tubing legs with non-marring feet; steel locking device for each leg; laminated plastic top with aluminized plastic edge strip around perimeter of table top.

4705 Table, Casting

Ceramics: beginning, advanced

Top of 1″ wood; crossmembers of aluminum; waste tray catches excess slip; removable for easy celaning; welded angle-iron construction; 8′ x 2′ x 32″H.

4715 **Table, Spraying**

Woodworking: advanced

Top constructed of 2″ x 8″ fir; glued and cut to 50″ diameter; Lazy Susan bearing attached to underside; contruct two stands, one 24″H and one 8″H.

4720 **Table, Typewriter**

Graphic Arts: beginning, advanced

Heavy weight table; lever control retractable casters; non-skid top; spring action drop leaves; 48½″ x 25″ x 26″.

4725 **Tachometer**

Auto and Power Mechanics: advanced

Tach-dwell meter; 6-12-24V; 0-5000 RPM; 2 ranges; scales for 4, 6 and 8 cylinder engines.

4730 **Tanks, Film development**

Graphic Arts: beginning, advanced

For roll film from 16mm to 120-620 size; reel adjustable for various sizes and with ratchet feature.

4735 **Tank, Agitated storage**

Ceramics: beginning, advanced

Made of heavy carbon steel, porcelain lined; with agitator shaft and stirrers of stainless steel; tank size 42″ x 42″; 50 RPM stirrer shaft; 1 HP motor; approximately 240 gal. capacity.

4740 **Tank, Hot boiling**

Auto and Power Mechanics: advanced

4745 **Tank, Parts cleaning, Solvent**

Auto and Power Mechanics: beginning, advanced

Fusible link safety cover; flexible metal flush hose; 1/3 HP; pumping unit @ 65 gal./min.; oil filter; removable sludge trays off-on pilot light; casters; 40 gal. capacity.

4750 **Tank, Storage, Slip**

General Shop

4755 **Tap and Die, Machine screw (set)**

Metalworking: beginning, advanced

Including the following sizes: 4 x 36, 6 x 32, 8 x 32, 10 x 24, 10 x 32, 12 x 24, ¼ x 20.

4760 **Tap and Die, NC (U.S. standard) (set)**

Auto and Power Mechanics: beginning, advanced

Electricity-Electronics: beginning, advanced

General Shop

Metalworking: beginning, advanced

Plastics: beginning, advanced

1 each—taper, plug, and bottoming tap plus one die in following

sizes: ¼" x 20, 5/16" x 18, ⅜" x 16, 7/16" x 14, and ½" x 13; complete with die stock and tap wrench.

4765 Tap and Die, NF (S.A.E.) (set)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
1 each—taper, plug, and bottoming tap plus one die in following sizes: ¼" x 28, 5/16" x 24, ⅜" x 24, 7/16" x 20, and ½" x 20; complete with die stock and tap wrench.

4770 Tap and Die, Pipe (set)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
Metalworking: beginning, advanced
Tap, die, and reamer for following pipe sizes: ⅛", ½", ¾", and 1".

4775 T Bevel, Sliding
Drafting: advanced
Elementary
Plastics: beginning, advanced
Woodworking: beginning, advanced
6"; iron handle.

4780 Template, Architectural
Drafting: advanced
House-plan and plumbing template; scale: ¼" = 1'0" and ⅛" = 1'0"; size 5" x 7" x .030; non-discoloring plastic.

4785 Template, Electronic
Drafting: advanced
NASA standard electrical drafting templates; size 5¼" x 8" x .060; non-discoloring plastic.

4790 Template. Isometric circle
Drafting: advanced
38 ellipses from ⅛" to 1-9/16"; .040 thick; non-discoloring plastic.

4795 Template, Isometric circle (large)
Drafting: advanced
25 ellipses 1½" to 2" in increments of ⅛"; 2" to 7" in increments of ¼"; .080 thick; non-discoloring plastic.

4800 Template, Large circle
Drafting: advanced
Circle and radius master; 36 circles from 3/64" to 1" in diameter; with 24 semi-circles ranging from 1" diameter to 7½" diameter; size 7½" x 10" x .080; non-discoloring plastic.

4805 Template, Nuts and bolts

Drafting: advanced

Contains elevation views of socket head, flat head, and fillister head, cap screws, American standard hex head and bolts, and socket head stripper bolts including end screws; drill point and countersink cut out for angles of 82°, 90° 100°, 118°, and 135°; size 5" x 10-7/16" x .030"; non-discoloring plastic.

4810 Tension Tester, Core

Metalworking: advanced

4815 Tester, Battery cell

Auto and Power Mechanics: beginning, advanced

(Battery-Starter Tester) ammeter range 0-400 Amps; 3 Voltmeter scales, 0-16, 0-8, 0-4 V; 6 and 12 V systems; with test leads and stand.

4820 Tester, Coil and condenser

Auto and Power Mechanics: advanced

6-12-24 V; portable; fused.

4825 Tester, Distributor

Auto and Power Mechanics: advanced

¼ HP distributor drive operating from idle to 6000 RPM; 12" diameter strobe light rings graduated in divisions of 1°; precision meters (2% full deflection); tachometer 0-3000 distributor RPM; dwell meter 0-45° for 6 and 8 cylinder distributor, 0-90° for 4 cylinder distributors; vacuum pump (up to 21"H); condenser tester.

4830 Tester, Guided bend

Plastics: advanced

Maximum rated ram force 10,000 lbs.; stroke 5"; capacity ⅜" x 2" cross section; ram radius ¾" (cyanided); roller diameter 1½" (cyanided).

4835 Tester, Hardness

Metalworking: advanced

Plastics: advanced

Bench; Rockwell system of regular hardness tests 10 to 150 kg. and superficial tests 3 to 45 kg.

Plastics: requires M scale—¼" ball, 10-100 kg loads; R scale, ½" ball, 10-60 kg loads.

4840 Tester, Neon lamp type

General Shop

90-550V AC-DC.

4845 Tester, Radiator pressure

Auto and Power Mechanics: beginning, advanced

Plunger action; to fit all cars; test radiator caps and cooling system;

heavy die cast body; steel latching gears; high quality pump; easy to read gauge.

4850 **Tester, Transistor**
Electricity-Electronics—beginning, advanced
Short, leakage, and forward current tests.

4855 **Tester, Tube**
Electricity-Electronics: beginning, advanced
General Shop
Mutual conductance type.

4860 **Testing Machine, Tensile**
Plastics: advanced
Maximum rated capacity 40,000 lbs.; stroke 4"; tow socket 1½"D x 1¾"W; handle 18"L toggle action.

4865 **Testing Machine, Universal**
Plastics: advanced
Tests properties of tensile, compression, shear, transverse, hardness, and modulus of elasticity; materials: metal, wood, plastics, ceramics, cements, fastners, and fabrics; 5" ram travel; 12" precision read-out gauge; overall 34"L x 12"W x 11"H; maximum rated capacity 40,000 lbs.; maximum specimen size (with standard jaws): ⅝" x 1½" x 10"; jaw socket 1½"D x 1¾"W at front 30° included angle x 3"L; maximum clearing width between jaws 6⅝"; handle 18"L with toggle action; material of welded steel; self-containing hydraulic ram unit.

4870 **Thermoforming Press, Vacuum (large)**
Plastics: beginning, advanced
Approximate maximum sheet size 24" x 36"; 220V, 3-phase heaters; vacuum pump and surge tank minimum capacity 5 gal.; automatic or semi-automatic cycles.

4875 **Thermoforming Press, Vacuum (medium)**
General Shop
Plastics: advanced
Approximate maximum sheet size 16" x 16"; 220V, single-phase heater; vacuum and pressure pump and tanks.

4880 **Thermoforming Press, Vacuum (small)**
Elementary
Plastics: beginning, advanced
Approximate maximum sheet size 8" x 8"; 110V heater; manual vaccum pump.

4885 **Thermometer, Photographic**
Graphic Arts: beginning, advanced
Tank and tray thermometer; pivoted spring clip; scale from 30°F to 140°F, in 2 increments; 4⅞"L.

4890 **Threading Tool, Lathe**
Metalworking: advanced
For formed cutters; V-thread

4895 **Throwing Ribs, Wood (set)**
Ceramics: beginning, advanced
Hand formed, rubbed walnut; with finger holes for easy handling; 3 shapes.

4900 **Timer, Interval**
Plasics: beginning, advanced
120 minute capacity by seconds.

4905 **Timer, Photographic (electric)**
Graphic Arts: beginning, advanced
Luminous universal timer; marked with phosphorescent numbers; time from 1 sec. to 60 min.; automatically controls enlarger exposures; built-in electric buzzer; outlet receptacle is controlled by selector switch, makes or breaks circuit at zero. Properly grounded for safe use.

4910 **Timer, Photographic (spring wound)**
Graphic Arts: beginning, advanced
30 minute photographic bell timer; times in minutes up to 30 minutes.

4915 **Tongs, Blacksmith, Curved lip**
General Shop
Metalworking: beginning, advanced
To hold rounds. 20"L.

4920 **Tongs, Crucible**
General Shop
17"L.

4925 **Tongs, Pick-up**
General Shop
Metalworking: beginning, advanced
Flat lips, 24"L.

4930 **Tool, Drag link and shock arm**
Auto and Power Mechanics: advanced

4935 **Tool Holder, Lathe (left hand)**
Auto and Power Mechanics: beginning, advanced
Metalworking: beginning, advanced
To fit tool post of lathe orderd.

4940 **Tool Holder, Lathe (right hand)**
Auto and Power Mechanics: beginning, advanced
Metalworking: beginning, advanced
To fit tool post of lathe ordered.

4945 Tool Holder, Lathe (straight)
Auto and Power Mechanics: beginning, advanced
Metalworking: beginning, advanced
To fit tool post of lathe ordered.

4950 Torch, Gas
General Shop
Metalworking: beginning, advanced
Natural gas and air. (Must conform to ASA standards.)

4955 Torch, Propane (kit)
Auto and Power Mechanics: Advanced
General Shop
With assorted tips for heating and soldering.

4960 Tracer
General Shop
Stylus for leather.

4965 Trammel Points
General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
Hardened points plus pencil holder to be attached to straight stick.

4970 Transformer, Bell
General Shop
Primary: 110-115V AC; Secondary: 6, 12, and 18V.

4975 Transformer, Step-down
Auto and Power Mechanics: advanced

4980 Transformer, Step-up
Auto and Power Mechanics: advanced

Transmission Maintenance Set (See: Automatic Transmission Tool #0075).

4985 Tray, Photographic
Graphic Arts: beginning, advanced
Hard rubber; non-corrosive; slip-proof; specially reinforced rims and bottoms; used interchangeably for all photographic pocesses without danger to prints or negatives; 11" x 14".

4990 Triangle, 30°-60° (8")
Drafting: beginning
General Shop
Graphic Arts: beginning, advanced
Woodworking: beginning, advanced
Acrylic plastic; .080" thick; with finger lifts.

4995 Triangles, 30°-60° (10″ and 12″)

Drafting: advanced

One each 10″ and 12″; acrylic plastic; .080″ thick; with finger lifts.

5000 Triangle, 45° (6″)

Drafting: beginning

Graphic Arts: beginning, advanced

Drafting: acrylic plastic: .080″ thick; with finger lifts.

Graphic Arts: stainless steel; solid center with lifting knob.

5005 Triangle, 45° (8″)

Drafting: advanced

General Shop

Woodworking: beginning, advanced

Acrylic plastic; .080″ thick; with finger lifts.

5010 Triangle, 45° (12″)

Drafting: advanced

Acrylic plastic; .080″ thick; with finger lifts.

5015 Triangle, Adjustable (10″)

Drafting: advanced

Transparent acrylic plastic; .100″ thick; graduated to ½°; numbered every 10° from 0° to 45°; magnifier setting.

5020 Triangle, Chalkboard, 30°-60°

Drafting: beginning, advanced

General Shop

24″ hardwood; with magnets, holding knob and hanger hole.

5025 Triangle, Chalkboard, 45°

Drafting: beginning, advanced

Hardwood; with magnets, holding knob and hanger hole.

5030 Triangle, Kiln

Elementary

For supporting pottery when firing and glazing; assortment #1, #2, #3, #4, #5.

5035 Trimmer, Paper

Graphic Arts: beginning, advanced

Guides adjust to any position; blade hook for safety; ruled in ½″ squares; 24″ x 24″ table.

5040 Trivets

Ceramics: beginning, advanced

General Shop

Heat resistant; stainless steel; two types: one complete in itself, other is bolted to firing rack.

5045 Trowel, Foundry
General Shop
Metalworking: advanced

5050 Trowel, Square, Molder's
General Shop

5055 Trowel, Taper (heart) and leaf, Molder's
General Shop

5060 Truck, Bindery
Graphic Arts: advanced
All metal; 4 pivoting shelves; ball bearing rubber wheels for complete maneuverability; 28" x 40".

5065 Truck, Welding cylinder
Auto and Power Mechanics: advanced
General Shop
Metalworking: beginning, advanced
Plastics: advanced
Size appropriate to gas bottle size.

5070 T Square
Drafting: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Woodworking: beginning, advanced
Fixed head; hardwood head and blade; with transparent plastic edges along upper and lower blade; with hang hole; mimimum size 24".

5075 Tumbler, Lapidary
Elementary
Steel drum; 25 lb. capacity; 1/4 HP motor; 115V AC, 60-cycle, single-phase; complete with cord and plug.

Turning Tool (set) (See: Wheel Turning Tool #5245)

Turning Tools, Metal lathe (set) (See: Tool Holder, Lathe #4935-#4945).

5080 Tweezers, Bevel point
General Shop

5085 Tweezers, Type
General Shop
Graphic Arts: beginning, advanced
4½"; fine point; nickel plated.

5090 Type (assorted sizes and styles—see listing—next page)
General Shop
Graphic Arts: beginning, advanced

FONTS OF FOUNDRY TYPE, SPACES AND QUADS RECOMMENDED FOR GRAPHIC ARTS

	Roman					Square Serif		Sans Serif				Spaces & Quads
Size	Oldstyle	OS Italic	Mod.	Mod. It.	Text	Reg.	Italic	Reg.	Italic	Script	Decorative	No. of Fonts
6 pt.	2	2	2	2		2	2	2	2			10
8	2	2	2	2		2	2	2	2			10
10	2	2	2	2		2	2	2	2			10
12	2	2	2	2	2	2	2	2	2		2	10
14	2	2	2	2	2	2	2	2	2	2	2	12
18	2	2	2	2	2	2	2	2	2	2	2	12
24	2	2	2	2	2	2	2	2	2	2	2	12
30												
36	2	2	2	2	2	2	2	2	2	2	2	12
48	2		2			2	2	2	2	2	2	10
72	2		2			2	2	2	2	2	2	10
Wood	2					2	2	2	2	2	2	10
8 line	1					1						
10	1					1						
12	1					1						
15	1					1						

Plus 1 font per student of monotype, for basic instruction.

FONTS OF FOUNDRY TYPE, SPACES AND QUADS RECOMMENDED FOR GENERAL SHOP

	Roman					Square Serif		Sans Serif				Spaces & Quads
Size	Oldstyle	OS Italic	Mod.	Mod. It.	Text	Reg.	Italic	Reg.	Italic	Script	Decorative	No. of Fonts
10	1	1	1	1		1	1	1	1			10

5095 Typesetter, Linecasting

Graphic Arts: advanced

Tape operated; single distribution; 3 main magazines; selectro-matic quadder, mold cooler and metal feeder; 220V AC.

5100 Typesetter, Photo-headsetter

Graphic Arts: advanced

Sets type and lettering to 175 point sizes; projection system permits 200% enlargement to 400% reduction from a single film font; develops inside the machine; condense, expand, blackslant or italicize to varying degrees; 2800 variations in sizes, slants, and proportions are possible from a single film font.

5105 Typewriter, Electric

Graphic Arts: advanced

Writing line 13"; paper width 15½"; suitable for all office and printing needs; stationary carriage and removable ball of type that moves across the page; selection of different type faces available.

5110 Typewriter, Standard

Graphic Arts: beginning

Standard keyboard; pica or elite type (school should specify size and type face); 12" carriage.

Vacuum Forming Machine (See: Thermoforming Press, Vacuum (small) #4880).

5115 Vacuum Printing Frame

Graphic Arts: advanced

17" x 21" working area; vacuum pump; 110V, 60-cycle motor; gauge; vacuum release valve.

Valve Seat Grinder (See: Grinder, Valve #1995)

Valve Refacer (See: Refacer, Valve #3615)

5120 V Block and Clamps (set)

Metalworking: beginning, advanced

Plastics: beginning, advanced

5125 Veiner, Leather stamp

Elementary

5130 Vise, Angle, Drill

Metalworking: beginning, advanced

Capacity of opening 2¼" (beginning); capacity of opening 3" (advanced).

5135 Vise, Bench, Drill

General Shop

Metalworking: beginning, advanced

Woodworking: beginning, advanced

Capacity of opening 3".

5140 **Vise, Machinist's bench**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Swivel base; 3″ jaw; 4¾″ opening.

5145 **Vise, Mitre**
Woodworking: beginning, advanced

5150 **Vise, Pin (set)**
Metalworking: beginning, advanced
Range 0″ to .125″ minimum.

5152 **Vise, Pipe**
Metalworking: beginning, advanced

5155 **Vise, Sheet Metal**
General Shop
Smooth jaw; 3″ opening.

5160 **Vise, Swivel**
General Shop
2″ jaw; rapid positioning.

5165 **Vise, Woodworker's**
Elementary
General Shop
Portable; clamp-on type; for miscellaneous use other than regular work bench vise.

5170 **Ware Truck**
Ceramics: beginning, advanced
Welded angle-iron construction; rubber-tired swivel casters; 8 shelves 22″ x 28″.

5175 **Wedging Boards**
Ceramics: beginning
22″ x 15″ x 14″H; or 12″ x 15″ x 2″T hard plaster bat.

5180 **Wedging Table**
Ceramics: beginning, advanced
General Shop

5185 **Welder, Arc**
Auto and Power Mechanics: advanced
General Shop
Metalworking: beginning, advanced
Plastics: advanced
AC/DC. (Must conform to ASA standards.)

5190 Welder, MIG
Metalworking: advanced

5195 Welder, Spot
Electricity-Electronics: beginning, advanced
Metalworking: beginning, advanced

5200 Welder, Spot (portable)
General Shop
220V; 10′ power cable; with standard tongs.

5205 Welder, TIG
Metalworking: advanced

Welding Helmet (See: Helmet, Welding #2145)

5220 Welding Outfit, Oxy-acetylene
Auto and Power Mechanics: advanced
General Shop
Metalworking: beginning, advanced
Plastics: advanced
Including regulators, torch, set of tips, cutting attachment and set of tips: twin hose.

5225 Welding Screen, Portable
Auto and Power Mechanics: advanced
General Shop
Back 6′ x 6′; wings 3′. Tubular frame construction; replaceable fireproof curtains. Hinged wings.

5230 Welding Unit, Plastics
Plastics: beginning, advanced
Hand welder and tacker; 110V; assorted tips; air regulator and pressure gauges; carrying case.

5235 Wheel Alignment Set
Auto and Power Mechanics: advanced
Gauges for: all magnetic—toe in, caster angle, camber angle, Easter-king pin angle; turntable set; trammel bar; tirescriber; etc.

5240 Wheel Balancer
Auto and Power Mechanics: advanced
(On the car); 1¼ HP, 7500 RPM, 110V AC motor; spins wheel over 100 MPH; quick action brake; foot motor control; wheel adapter for 13″-16″ wheels.

Wheel Dresser (see: Dresser, Abrasive wheel #1320)

5245 Wheel Turning Tool (set)
Ceramics: beginning, advanced
Set of 6 different shapes for working on the potter's wheel for turning down plaster or clay pieces; length of tools 9¼″.

5250 **Wire Cutter and Stripper**
General Shop

5255 **Wrench, Adjustable end (6″)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
¾″ maximum opening; forged steel; satin-chrome finish.

5260 **Wrench, Adjustable end (8″)**
Auto and Power Mechanics: beginning, advanced
Elementary
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning
15/16″ maximum opening; forged steel; satin-chrome finish.

5265 **Wrench, Adjustable end (10″)**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: advanced
Plastics: beginning, advanced
1⅛″ maximum opening; forged steel; satin-chrome finish.

5270 **Wrench, Adjustable end (12″)**
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: advanced
Plastics: beginning, advanced
1-5/16″ maximum opening; forged steel; satin-chrome finish.

5275 **Wrench, Adjustable end (monkey)**
Auto and Power Mechanics: beginning, advanced

5280 **Wrench, Allen key (hex) (set)**
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
Set including 11 standard sizes, #1½-#12.

5285 **Wrench, Box (set)**
Metalworking: beginning, advanced
Range of openings: ⅜"-1"; satin-chrome finish.

5290 **Wrench, Combination box and open end (set)**
Auto and Power Mechanics: beginning, advanced
General Shop
Range of openings: ⅜"-1"; satin-chrome finish.

5295 **Wrench, Combination box and open end (metric) (set)**
Auto and Power Mechanics: beginning, advanced
Set of 10; sizes: 6, 8, 9, 10, 12, 13, 14, 15, 17, 19mm; 12 point box-end opening; for foreign cars; satin-chrome finish.

5300 **Wrench, Deep socket (⅜" drive) (set)**
Auto and Power Mechanics: beginning, advanced
8-6 point sockets; sizes ⅜"-9/16" are 1¾"L; sizes ⅝"-13/16" are 2½"L; incremented by 16ths; satin-chrome finish.

5305 **Wrench, Deep socket (½" drive (set)**
Auto and Power Mechanics: beginning, advanced
8-12 point sockets; 3¼"L; sizes ½"-15/16"; incremented by 16ths; satin-chrome finish.

5310 **Wrench, Drain plug**
Auto and Power Mechanics: beginning, advanced
Contains common male and female plug sizes for crankcase, transmission, and differential; satin-chrome finish.

5315 **Wrench, Flare nut (set)**
Auto and Power Mechanics: advanced
Combination open end and hex flare nut wrenches; sizes: ⅜", 7/16", ½", 9/16", ⅝"; satin-chrome finish.

5320 **Wrench, Ignition (set)**
Auto and Power Mechanics: beginning, advanced
General Shop
6 open end wrenches; sizes: 15/64", ¼", 9/32", 5/16", 11/32", ⅜"; with kit bag.

5325 **Wrench, Lug**
Auto and Power Mechanics: beginning, advanced

Wrench, Monkey (see: Wrench, Adjustable end (monkey) #5275)

5330 **Wrench, Nutdriver (set)**
Electricity-Electronics: beginning, advanced
General Shop
Set of 8 drivers; sizes: 3/16", ¼", 9/32", 5/16", 11/32", ⅜", 7/16", ½"; color coded handles.

5335 **Wrench, Open end (set)**
Electricity-Electronics: beginning, advanced

General Shop
Metalworking: beginning, advanced
Woodworking: beginning, advanced
Double end wrenches; sizes: ¼″-1″; satin-chrome finish.

5340 Wrench, Pipe (10″)
Auto and Power Mechanics: beginning, advanced
General Shop
Metalworking: beginning, advanced
Heavy duty malleable frame; steel alloy jaws.

5345 Wrench, Pipe (14″)
Metalworking: advanced
Heavy duty malleable frame; steel alloy jaws.

5350 Wrench, Pipe (18″)
Auto and Power Mechanics: advanced
General Shop
Metalworking: advanced
Heavy duty malleable frame; steel alloy jaws.

5355 Wrench, Socket (¼″ drive) (set)
Auto and Power Mechanics: beginning, advanced
9-6 point standard sockets, sizes: 3/16″-½″ by 32nds; 2-8 point standard sockets, ¼″ and 5/16″; 1 spinner handle; 2 extensions, 2″ and 6″; 1 ratchet handle; 1 universal joint; satin-chrome finish.

5360 Wrench, Socket (⅜″ drive) (set)
Auto and Power Mechanics: beginning, advanced
Electricity-Electronics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
Plastics: beginning, advanced
Woodworking: beginning, advanced
10 piece set; 7 standard sockets, sizes: ⅜″-¾″ by 16ths; 1 flex handle 8½″L; 1 extension 3″L; 1 reversible ratchet handle 7″L; with metal box; satin-chrome finish.

5365 Wrench, Socket (½″ drive) (set)
Auto and Power Mechanics: beginning, advanced
General Shop
Graphic Arts: beginning, advanced
Metalworking: beginning, advanced
9 piece set; 7 standard sockets, sizes: ⅜″-¾″ by 16ths; 1 extension 5″L ;1 reversible ratchet handle 10¼″L; with metal box; satin-chrome finish.

5370 **Wrench, Socket (metric) (set)**
Auto and Power Mechanics: advanced
½″ drive for foreign cars; 9-12 point sockets, sizes: 9mm to 22mm; 2 extensions, 6″ and 10″; 1 speeder handle 18″L; 1 flex handle 15″L; 1 crossbar; 1 ratchet handle 9¾″L; satin-chrome finish.

5375 **Wrench, Socket, Flex handle (⅜″ drive)**
Auto and Power Mechanics: advanced
7½″L; for use with ⅜″ drive socket wrench set; satin-chrome finish.

5380 **Wrench, Socket, Flex handle (½″ drive)**
Auto and Power Mechanics: advanced
16″L; for use with ½″ drive socket wrench set; satin-chrome finish.

5385 **Wrench, Socket, Handle extension (⅜″ drive) (4″)**
Auto and Power Mechanics: beginning, advanced
For use with ⅜″ drive socket wrench set; satin-chrome finish.

5390 **Wrench, Socket, Handle extension (⅜″ drive) (8″)**
Auto and Power Mechanics: beginning, advanced
For use with ⅜″ drive socket wrench set; satin-chrome finish.

5395 **Wrench, Socket, Handle extension (⅜″ drive) (set)**
Auto and Power Mechanics: beginning, advanced
Set of 4; sizes: 3″, 6″, 10″, 20″; for use with ⅜″ drive socket wrench set; satin-chrome finish.

5400 **Wrench, Socket, Handle extension (½″ drive) (3″)**
Auto and Power Mechanics: beginning, advanced
For use with ½″ drive socket wrench set; satin-chrome finish.

5405 **Wrench, Socket, Handle extension (½″ drive) (8″)**
Auto and Power Mechanics: beginning, advanced
For use with ½″ drive socket wrench set; satin-chrome finish.

5410 **Wrench, Socket, Handle extension (½″ drive) (set)**
Auto and Power Mechanics: beginning, advanced
Set of 4; sizes: 3″, 6″, 10″, 20″; for use with ½″ drive socket wrench set; satin-chrome finish.

5415 **Wrench, Socket, Reversible ratchet handle (¼″ drive)**
Auto and Power Mechanics: beginning, advanced
Included in Wrench, Socket (¼″ drive) (set) #5360. May be ordered separately; satin-chrome finish.

5420 **Wrench, Socket, Reversible ratchet handle (⅜″ drive)**
Auto and Power Mechanics: beginning, advanced
General Shop
Included in Wrench, Socket (⅜″ drive) (set) #5365. May be ordered separately; satin-chrome finish.

5425 **Wrench, Socket, Reversible ratchet handle (½″ drive)**
Auto and Power Mechanics: beginning, advanced
General Shop
Included in Wrench, Socket (½″ drive) (set) #5370. May be ordered separately; satin-chrome finish.

5430 **Wrench, Socket, Speed handle (¼″ drive)**
Auto and Power Mechanics: beginning, advanced
16″L; for use with ¼″ drive socket wrench set; satin-chrome finish.

5435 **Wrench, Socket, Speed handle (⅜″ drive)**
Auto and Power Mechanics: beginning, advanced
16⅞″L; for use with ⅜″ drive socket wrench set; satin-chrome finish.

5440 **Wrench, Socket, Speed handle (½″ drive)**
Auto and Power Mechanics: beginning, advanced
18″L; for use with ½″ drive socket wrench set; satin-chrome finish.

5445 **Wrench, Socket, Universal joint attachment (¼″ drive) (set)**
Auto and Power Mechanics: advanced
For use with ¼″ drive socket wrench set; satin-chrome finish.

5450 **Wrench, Socket, Universal joint attachment (⅜″ drive) (set)**
Auto and Power Mechanics: beginning, advanced
For use with ⅜″ drive socket wrench set; 1⅞″L; satin-chrome finish.

5455 **Wrench, Socket, Universal joint attachment (½″ drive) (set)**
Auto and Power Mechanics: beginning, advanced
For use with ½″ drive socket wrench set; 2-5/16″L; satin-chrome finish.

5460 **Wrench, Tappet (set)**
Auto and Power Mechanics: beginning, advanced
Set includes 2 each: 7/16″ and ½″, 12″ and 9/16″, ⅝″ and 11/16″.

5465 **Wrench, Torque (⅜″ drive)**
Auto and Power Mechanics: beginning, advanced
General Shop
Flexible beam; job molded aluminum handle; easy to read scale; measures foot-pounds or inch-pounds in either direction; 150 ft.-lbs. range in 10 ft.-lbs. divisions or 150 in.-lbs. range in 5 in.-lbs. divisions.

5470 **Wrench, Torque (½″ drive)**
Auto and Power Mechanics: beginning, advanced
Flexible beam; job molded aluminum handle; easy to read scale; measures foot-pounds in either direction; 200 ft.-lbs. range in 10 ft.-lbs. divisions.

Wrench, Vise-grip (see: Pliers, Vise-grip #3170)

AMERICAN STANDARDS FOR SAFETY

(These standards are also included in the preceding general list)

(Special price of complete set, $190.00)

A2.1-1956 Fire Tests of Building Construction and Materials, Methods of (ASTM E119-55; NFPA 251-1955)	1.00
A2.2-1960 Fire Tests of Door Assemblies, Methods of (ASTM E152-58; NFPA 252-1958)	1.00
A2.5-1963 Surface Burning Characteristics of Building Materials, Method of Test for (ASTM E84-61; UL 723-1960; NFPA 255-61)	1.00
A2.6-1963 Fire Tests of Window Assemblies, Methods of (ASTM E163-60T; UL 9-62)	1.00
A10.1-1951 Manual of Accident Prevention in Construction	Out of Print
A10.2-1944 †Building Construction, Safety Code for (Partially revised by A10.4-1963)	3.50
A10.4-1963 †Workmen's Hoists, Safety Requirements for (Revision of Section 10, Part XI of A10.2-1944)	2.00
★A11.1-1965 Industrial Lighting, Practice for (IES RP 7-1965)	.80
A12-1932 †Floor and Wall Openings, Railings, and Toe Boards, Safety Code for	2.00
A13.1-1956 Identification of Piping Systems, Scheme for the	1.50
A14.1-1959 †Portable Wood Ladders, Safety Code for	2.50
A14.2-1956 †Portable Metal Ladders, Safety Code for	2.00
A14.3-1956 †Fixed Ladders, Safety Code for	2.00
★A17.1-1965 Elevators, Dumbwaiters, and Moving Walks, Safety Code for (Revision and Consolidation of A17.1-1960, A17.1a-1963, and A17.1.13-1962)	6.50
A17.2-1960 Elevators, Practice for the Inspection of (Inspectors' Manual)	4.00
★A17.2a-1965 Addenda to A17.2-1960, sold separately	.50
A23.1-1962 School Lighting, Guide for (IES RP3-1962)	.50
A39.1-1959 †Window Cleaning, Safety Code for	2.00
A85.1-1956 Protective Lighting, Practice for (IES RP10-1956)	.50
A90.1-1949 (R1956) Manlifts, Safety Code for	1.50
★A113.1-1964 Mechanized Parking Garage Equipment, Safety Code for	3.75
A117.1-1961 †Making Buildings and Facilities Accessible to, and Usable by, the Physically Handicapped, Specifications for	2.00
A119.1-1963 Plumbing, Heating, and Electrical Systems in Mobile Homes, Installation of	1.00
A119.2-1963, Plumbing, Heating, and Electrical Systems in Travel Trailers, Installation of	1.00

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B7.1-1964 Use, Care, and Protection of Abrasive Wheels, Safety Code for the	1.00
B9.1-1964 Mechanical Refrigeration, Safety Code for (ASRE 15-63)	3.50
B11.1-1960 †Power Presses, Safety Code for	4.00
B15.1-1953 (R1958) Mechanical Power-Transmission Apparatus, Safety Code for	3.00
B19-1938 Compressed Air Machinery and Equipment, Safety Code for	Out of Print
B20.1-1957 Conveyors, Cableways, and Related Equipment, Safety Code for	2.50
B24.1-1963 †Forging and Hot Metal Stamping, Safety Code for	2.50
B28.1-1949 (R1959) †Mills and Calenders in the Rubber Industry, Safety Code for	3.00
B30.1-1943 (R1952) Jacks, Safety Code for	1.50
B30.2-1943 (R1952) Cranes, Derricks, and Hoists, Safety Code for	4.00
B31.1-1955 Pressure Piping, Code for, with addenda B31.1a-1965 (Current except for Sections on Refinery, Oil Transportation, and Refrigeration Piping which are listed below)	4.00
★B31.1a-1965 Addenda to B31.1-1955, sold separately	.50
B31.3-1962 Petroleum Refinery Piping, with addenda B31.3a-1964	4.00
★B31.3a-1964 Addenda to B31.3-1962, sold separately	.50
B31.4-1959 Oil Transportation Piping, with addenda B31.4a-1965	4.00

▲, not yet available; †, quantity prices apply; ★, approved since last price list; R, reaffirmed

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

★B31.4a-1965 Addenda to B31.4-1959, sold separately	.50	
B31.5-1962 Refrigeration Piping, with addenda B31.5a-1965		4.00
★B31.5a-1965 Addenda to B31.5-1962, sold separately	.50	
B31.8-1963 Gas Transmission and Distribution Piping Systems, with addenda B31.8a-1965		4.00
★B31.8a-1965 Addenda to B31.8-1963, sold separately	.50	
B56.1-1959 Powered Industrial Trucks, Safety Code for		2.00
★B57.1-1965 Compressed Gas Cylinder Valve Outlet and Inlet Connections (CGA V-1-1965) [Agrees with ISO R407]		3.00
B65.1-1954 †Controls and Signaling Devices for Graphic Arts Presses, Safety Code for		2.00
B71.1-1964 †Power Lawn Mowers, Safety Specifications for		2.00
B77.1-1960 †Aerial Passenger Tramways, Safety Code for, with addenda B77.1a-1963 and B77.1b-1965		4.50
B77.1a-1963 †Addenda to B77.1-1960, sold separately	1.00	
★B77.1b-1965 †Addenda to B77.1-1960, sold separately	1.00	
B97.1-1963 Household Refrigerators and Freezers, Safety for (UL 250-April, 1963)		.60

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★C1-1965 National Electrical Code (NFPA 70-1965)		1.00
• **C2 — National Electrical Safety Code (NBS Handbook H30):**		2.25
C2.1-1941 (R1947) Installation and Maintenance of Electrical Supply Stations, Safety Rules for the (NBS Handbook H31-1940)		
C2.2-1941 (R1947)—Revised and replaced by C2.2-1960		
C2.3-1941 (R1947) Installation and Maintenance of Electric Utilization Equipment, Safety Rules for the (NBS Handbook H33-1940)		
C2.4-1939 (R1947) Operation of Electric Equipment and Lines, Safety Rules for the (NBS Handbook H34-1938)		
C2.5-1940 (R1947) Radio Installations, Safety Rules for (NBS Handbook H35-1939)		
C2.2-1960 Installation and Maintenance of Electric Supply and Communication Lines, Safety Rules for the (NBS H81-1961), including C2.2a-1965, sold separately		1.90
★C2.2a-1965 Supplement No. 1 to C2.2-1960, sold separately	.15	
★C5.1-1965 Lightning Protection Code (NFPA No. 78-1965)		.75

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C33.1-1957 Flexible Cord and Fixture Wire, Safety Standard for (UL 62-March-1957)	Out of Print
C33.2-1956 Transformer-Type Arc-Welding Machines, Safety Standard for (UL 551-October-1952)	.75
C33.3-1957 Cord Sets and Power-Supply Cords, Safety Standard for (UL 817-December-1955)	Out of Print
C33.4-1958 Specialty Transformers, Safety Standard for (UL 506-October-1952)	.75
C33.5-1956 Wire Connectors and Soldering Lugs, Safety Standard for (UL 486-February-1953)	.75
C33.6-1957 Rubber-Covered Wires and Cables, Safety Standard for (UL 44-April-1956)	Out of Print
C33.7-1957 Electrically Heated Pads and Bedding, Safety Standard for (UL 130-December-1954)	.75
C33.8-1957 Grounding and Bonding Equipment, Safety Standard for (UL 467-April-1957)	.50
C33.9-1959 Armored Cable, Safety Standards for (UL 4-March-1959)	Out of Print
C33.10-1961 Fuseholders, Safety Standards for (UL 512-May-1961)	.75
C33.11-1964 Electric Heating Appliances, Safety Standard for (UL 499-June-1962)	.75
C33.12-1964 Electric Space-Heating Equipment, Safety Requirements for (UL 573-December-1962)	1.00
★C33.13-1965 Home-Laundry Equipment, Safety Requirements for (UL 560-May-1963)	.80
★C33.14-1965 Room Air Conditioners, Safety Requirements for (UL 484-December-1961)	.60
★C33.15-1965 Flexible Nonmetallic Tubing, Requirements for (UL 3 April-1964)	▲
★C33.17-1965 Edison-Base Lampholders, Requirements for (UL 496 May 1964)	▲
★C33.18-1965 Cord Reels, Requirements for (UL 355 April-1964)	▲
★C33.19-1965 Electrically Illuminated Frames (UL 368 February-1957)	▲

★C33.20-1965 Rosettes, Requirements for (UL 351 October-1952)	▲
★C33.21-1965 Porcelain Cleats, Knobs, and Tubes, Requirements for (UL 511 October-1946)	▲
★C33.22-1965 Protectors for Communication Circuits, Requirements for (UL 491 November-1961)	▲
C37.19-1963 †Low-Voltage AC Power Circuit Breakers and Switchgear Assemblies, Safety Requirements for	2.00
★C39.5-1964 †Electrical Measuring and Controlling Instrumentation, Electrical Safety Requirements for	2.00

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D6.1-1961 Manual on Uniform Traffic Control Devices for Streets and Highways	2.00
D7.1-1963 †Inspection Requirements for Motor Vehicles, Trailers and Semi-Trailers Operated on Public Highways (Partial revision of D7.1-1956)	2.50
D7.2-1963 †Station Requirements for Inspection of Motor Vehicles, Trailers, and Semi-Trailers in Stations Owned and Operated by Regulatory Authority (Partial revision of D7.1-1956)	1.50
D7.3-1963 †Station Requirements for Inspection of Motor Vehicles, Trailers, and Semi-Trailers in Stations Appointed and Licensed by Regulatory Authority (Partial Revision of D7.1-1956)	1.50
D8.1-1956 Railroad Highway Grade Crossing Protection (AAR Bulletin 5)	Out of Print
D10.1-1958 Adjustable Face Traffic Control Signal Head Standards (ITE Technical Report 1-1958)	Out of Print
D11.1-1958 Pre-Timed, Fixed Cycle, Traffic Signal Controllers (ITE Technical Report 2-1958)	.50
D12.1-1963 Roadway Lighting, Practice for (IES RP 8-1963)	1.00
D13.1-1958 Traffic-Actuated Traffic Signal Controllers and Detectors, Specifications for (ITE Technical Report 3-1958)	.50
D15.1-1960 †Recording and Measuring Motor Vehicle Fleet Accident Experience, Method of	2.00
D15.2-1960 †Recording and Measuring Motor Vehicle Fleet and Passenger Accident Experience, Method of	2.00
D16.1-1962 Classification of Motor-Vehicle Traffic Accidents, Manual on	1.00
● **J6 — Specifications for Rubber Protective Equipment for Electrical Workers:**	
J6.1-1950 (R1962) Rubber Insulating Line Hose (ASTM D1050-59)	1.00
J6.2-1950 (R1962) Rubber Insulator Hoods (ASTM D1049-59)	
J6.4-1950 (R1962) Rubber Insulating Blankets (ASTM D1048-59)	
J6.5-1962 Rubber Insulating Sleeves (ASTM D1051-59)	
J6.6-1964 Rubber Insulating Gloves, Specifications for (ASTM D120-63) (Revision and Consolidation of J6.6-1962 (ASTM D120-59T) and J6.8-1962 (ASTM D1700-59))	
J6.7-1935 (R1962) Rubber Matting (reaffirmation and redesignation of C59.4-1935) (ASTM D178-24)	
J6.8-1962 Revised and Consolidated with J6.6-1964 (ASTM D120-63)	

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K13.1-1961 †Identification of Gas-Mask Canisters, Safety Code for the	1.50
K61.1-1960 Storage and Handling of Anhydrous Ammonia, Safety Requirements for the (CGA G-2.1-1960)	1.00

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L1.1-1956 (R1964) †Textile Safety Code	2.00
L14.69-1963 Flammability of Clothing Textiles, Test Method for (AATCC 33-1957; ASTM D1230-61)	1.00
● **L18 — Specifications for Protective Occupational (Safety) Clothing (American War Standards):**	
L18.1-1944 †Leather Aprons	Out of Print
L18.2-1944 †Cape Sleeves and Bibs	Out of Print
L18.3-1944 †Knee-Length Leggings	Out of Print
L18.4-1944 †Leather Coats	Out of Print
L18.5-1944 †Leather Overalls	Out of Print
L18.6-1944 †Leather Sleeves	Out of Print
L18.7-1944 †Welders' Leather Gauntlet Gloves	Out of Print
L18.8-1944 †Protective Leather Gloves, Steel-Stapled	Out of Print
L18.9-1944 †Asbestos Gloves	Out of Print

L18.10-1944 †Asbestos Gloves, Leather Reinforced	Out of Print
L18.11-1944 †Asbestos Mittens	Out of Print
L18.12-1944 †Asbestos Mittens, Leather Reinforced	Out of Print
L18.14-1944 †Asbestos Aprons (Bib Type)	Out of Print
L18.15-1944 †Asbestos Cape Sleeves and Bibs	Out of Print
L18.16-1944 †Asbestos Leggings (Knee and Hip Length)	Out of Print
L18.17-1944 †Asbestos Coats	Out of Print
L18.18-1945 †Leather One-Finger Mittens	Out of Print
L18.19-1945 †Leather Mittens	Out of Print
L18.20-1945 †Asbestos One-Finger Mittens	Out of Print
L18.21-1945 †Flame-Resistant Fabric Aprons (Bib Type)	Out of Print
L18.22-1945 †Flame-Resistant Fabric Leggings (Knee and Hip Length)	Out of Print
L18.23-1945 †Flame-Resistant Fabric Coats	Out of Print
L18.24-1945 †Flame-Resistant Fabric Pants	Out of Print
L18.25-1945 †Flame-Resistant Fabric Coveralls	Out of Print
L18.26-1945 †Flame-Resistant Fabric Spats	Out of Print
L18.27-1945 †Leather Spats	Out of Print
L18.28-1945 †Asbestos Spats	Out of Print
L18.29-1945 †Chemical-Resistant Gloves	Out of Print

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M2.1-1963 Installing and Using Electrical Equipment in and about Coal Mines, Safety Rules for (BMIC 8227)	.25
M11.1-1960 †Wire Ropes for Mines, Specifications for and Use of	3.50
M12.1-1946 (R1958) †Construction and Maintenance of Ladders and Stairs for Mines	1.50
M13.1-1960 Rock-Dusting Underground Bituminous-Coal and Lignite Mines to Prevent Coal-Dust Explosions, Practice for (BMIC 8001)	.50
M24-1932 †Installing and Using Electrical Equipment in Metal Mines, Safety Rules for	Out of Print
M28.1-1955 †Safety Procedures for Quarries	3.50

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N2.1-1960 Radiation Symbol	.60
N7.1-1960 †Radiation Protection in Uranium Mines and Mills (Concentrators)	3.00
N7.2-1963 †Radiation Protection in Nuclear Fuel Fabrication Plants	3.00

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O1.1-1954 (R1961) †Woodworking Machinery, Safety Code for	2.50

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P1.1-1963 †Pulp and Paper Mills, for Safety in	2.00

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S3-W-39 †The Effects of Shock and Vibration on Man	$3.50

This report, a review of the effects of shock and vibration on man, covers a very broad scope. It deals with three problems: (1) the determination of the structure and properties of the human body considered as a mechanical as well as a biological system; (2) the effects of shock and vibration forces on this system; and (3) the protection required by the system under various exposure conditions and the means by which this protection is to be achieved. ASA Sectional Committee on Bioacoustics, S3, recommends dissemination of the report as pertinent background and reference material on human vibration research, until such time as more definitive guidance on permissible vibration exposures can be provided through a standard. Fifty-six pages, 8½ x 11 in., 44 figures, 5 tables, paper cover.

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X2.5.17-1954 †Maximum Electrical Leakage of Dictating Machines	1.00

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Z2.1-1959 †Head, Eye, and Respiratory Protection, Safety Code for	3.50

Z2 Report—The Spectral-Transmissive Properties of Plastics for Use in Eye Protection $3.50

48-page, 8½ x 11 inch, 106 charts, 4 tables, heavy paper cover. This report was prepared by a subcommittee on Transmissive Properties of Plastics, and contains ultraviolet, luminous and infrared spectral-transmissive properties and other characteristic data on many of the presently available types of plastics suitable for use in protecting the eyes in industrial and certain other operations.

Z4.1-1955 †Sanitation in Places of Employment, Minimum Requirements for	2.00
Z4.2-1942 †Drinking Fountains, Specifications for	1.00
Z4.3-1935 Sanitary Privy (Supplement 108 to the Public Health Reports)	Out of Print
Z8.1-1961 †Laundry Machinery and Operations, Safety Code for	2.00
Z9.1-1951 †Ventilation and Operation of Open-Surface Tanks, Safety Code for	2.50
Z9.2-1960 †Design and Operation of Local Exhaust Systems, Fundamentals Governing the	5.00
Z9.3-1964 †Design, Construction, and Ventilation of Spray Finishing Operations, Safety Code for the	3.00
• **Z12 — Dust Explosions:**	
Z12.1-1961 Installation and Operation of Pulverized-Fuel Systems, Standard for the (NFPA No. 60-May-1961)	.60
Z12.2-1962 Starch Factories, Code for the Prevention of Dust Explosions in (NFPA No. 61A-May-1962)	.50
Z12.3-1962 Flour and Feed Mills, Code for the Prevention of Dust Explosions in (NFPA No. 61C-May-1962)	.60
Z12.4-1959 Terminal Grain Elevators, Code for the Prevention of Dust Explosions in (NFPA No. 61B-June-1959)	.50
Z12.6-1959 (2nd ed) Pulverized Sugar and Cocoa, Standard for the Prevention of Dust Explosions in (NFPA No. 62-June-1959)	.40
Z12.7-1959 (2nd ed) Coal Preparation Plants, Standard for the Prevention of Dust Explosions in (NFPA No. 653-June-1959)	.50
Z12.9-1959 Spice Grinding Plants, Code for the Prevention of Dust Ignitions in (NFPA No. 656-June-1959)	.40
Z12.11-1963 Manufacture of Aluminum Powder, Code for the Prevention of Dust Explosions in the (NFPA No. 651-June-1963)	.50
Z12.12-1959 Sulfur Fires and Explosions, Standard for Prevention of (NFPA No. 655-June-1959)	.50
Z12.13-1959 Country Grain Elevators, Code for the Prevention of Dust Ignitions in (NFPA No. 64-June-1959)	.40
Z12.14-1943 Grain Elevators and Storage Units, Suggested Good Practices for the Application of Suction and Venting for the Control of Dust in (NFPA No. 661-1942)	.25
Z12.15-1959 Magnesium Powder or Dust, Code for Explosion and Fire Protection in Plants Producing or Handling (NFPA No. 652-June-1959)	.40
Z12.16-1963 Plastic Industry, Code for the Prevention of Dust Explosions in the (NFPA No. 654-June-1963)	.75
Z12.18-1959 Confectionery Manufacturing Plants, Code for the Prevention of Dust Explosions in (NFPA No. 657-June-1959)	.40
Z12.19-1963 Aluminum, Code for the Processing and Finishing of (NFPA No. 65-June-1963)	.50
Z12.20-1962 Woodworking and Wood Flour Manufacturing Plants, Code for the Prevention of (NFPA No. 664-May-1962	.60
★Z12.21-1964 Prevention of Dust Explosions in Industrial Plants, Fundamental Principles for the (NFPA No. 63-1964)	.50
★Z12.22-1964 Pneumatic Conveying Systems for Handling Feed, Flour, Grain and Other Agricultural Products (NFPA No. 66-1964)	.60

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Z16.1-1954 (R1959) †Recording and Measuring Work Injury Experience, Method of	2.00
Z16.2-1962 †Method of Recording Basic Facts Relating to Nature and Occurrence of Work Injuries	4.00
Z20.3-1957 Places of Outdoor Assembly, Grandstands and Tents (NFPA No. 102-May-1957)	.50
Z21.30-1964 Gas Appliances and Gas Piping, Installation Requirements for (NFPA 54-1964)	.75
Z24.22-1957 †Measurement of Real-Ear Attenuation of Ear Protectors at Threshold, Method for	2.00

Z24-X2 †The Relations of Hearing Loss to Noise Exposure **$3.50**

64 pp. 8½ x 11 in., 18 figures, 8 tables, paper cover. This report by Exploratory Subcommittee Z24-X-2 of Sectional Committee Z24 on Acoustics, Vibration, and Mechanical Shock analyzes the noise problem. Representing one of the most comprehensive surveys ever made, it tells what factors enter into the industrial loss of hearing; how much certain types of noise affect hearing; what allowance to make for recovery of hearing after noise exposure; what loss of hearing to expect of different age groups.

Z26.1-1950 †Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways, Safety Code for, with Addenda Z26.1a-1964	3.00
★Z26.1a-1964 †Addenda to Z26.1-1950, sold separately	1.00
Z33.1-1961 Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying (NFPA 91-1961; NBFU 91-1961)	.50
Z35.1-1959 †Industrial Accident Prevention Signs, Specifications for	2.00
• Z37 — Allowable Concentration of Toxic Dusts and Gases:	
Z37.1-1941 †Carbon Moxonoxide, Allowable Concentration of	1.50
Z37.2-1941 †Hydrogen Sulfide, Allowable Concentration of	1.50
Z37.3-1941 †Carbon Disulfide, Allowable Concentration of	1.50
Z37.4-1960 †Benzene, Maximal Acceptable Concentration of	2.00
Z37.6-1948 †Manganese, Allowable Concentration of	1.50
Z37.7-1943 †Chromic Acid and Chromates, Allowable Concentration of	1.50
Z37.8-1943 †Mercury, Allowable Concentration of	1.50
Z37.10-1960 †Xylene, Maximal Acceptable Concentration of	2.00
Z37.11-1943 †Lead and Certain of Its Inorganic Compounds, Allowable Concentration of	1.50
Z37.12-1960 †Toluene, Maximal Acceptable Concentration of	2.00
Z37.13-1962 †Nitrogen Dioxide, Maximal Acceptance Concentration of	2.00
Z37.14-1944 †Methanol, Allowable Concentration of	1.50
Z37.16-1944 †Formaldehyde, Allowable Concentration of	Out of Print
Z37.17-1957 †Maximum Acceptable Concentration of Carbon Tetrachloride	1.50
Z37.18-1949 †Methyl Chloride, Allowable Concentration of	Out of Print
Z37.19-1946 †Trichlorethylene, Allowable Concentration of	Out of Print
Z37.23-1962 †Methylene Chloride, Maximal Acceptable Concentration of	2.00
Z37.27-1961 †p - Dichlorobenzene, Maximal Acceptable Concentration of	2.00
• Z41 — Specifications for Protective Occupational Footwear (American War Standards):	
Z41.1-1944 †Men's Safety-Toe Shoes	2.50
Z41.3-1944 †Men's Conductive Shoes	
Z41.4-1944 †Men's Explosives-Operations (Non-sparking) Shoes	
Z41.5-1944 †Men's Electrical-Hazard Shoes	
Z41.6-1944 †Men's Foundry (Molders) Shoes	
Z41.2-1944 †Women's Safety-Toe (Oxford) Shoes	Out of Print
Z41.7-1944 †Women's Safety-Toe (High) Shoes	Out of Print
Z41.8-1944 †Women's Explosives-Operations (Non-sparking) Shoes	Out of Print
Z41.9-1944 †Women's Conductive Shoes	Out of Print
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Z43-1941 †Grinding, Polishing, and Buffing Equipment Sanitation	2.50

Z48.1-1954 Portable Compressed Gas Containers to Identify the Material Contained, Method for Marking	.25
Z49.1-1958 Welding and Cutting, Safety in	2.00
Z50.1-1947 †Bakery Equipment, Safety Code for	3.00
Z53.1-1953 †Marking Physical Hazards and the Identification of Certain Equipment, Safety Color Code for	2.00

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Z54.1-1963 Non-Medical X-Ray and Sealed Gamma-Ray Sources, Safety Standard for, Part 1—General (NBS Handbook H93)	.30
Z54.2-1958 Industrial Beta-Ray Sources, Safe Design and Use of (NBS Handbook 66-1958)	.20
Z66.1-1964 †Minimize Hazards to Children from Residual Surface Coating Materials, Specifications to	1.50
Z95.1-1963 Oil Burning Equipment, Installation of (NFPA No. 31-1963)	.75
Z96.1-1963 Oil-Fired Central Furnaces, Standards for Safety (UL 727 August-1961, 3rd ed)	1.25
★Z106.1-1965 Liquefied Petroleum Gases, Storage and Handling of (NFPA 58-1965)	.75

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★Z112.1-1965 Portable Fire Extinguishers, Installation of (NFPA No. 10-1965) (Partial revision of Z112.1-1964)	.60
★Z112.2-1965 Maintenance and Use of Portable Fire Extinguishers, Practice for the (NFPA No. 10A-1965) (Partial revision of Z112.1-1964)	.60

AMERICAN STANDARDS ON CONSUMER GOODS

(These standards are also included in the preceding general list)

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A14.1-1959 †Portable Wood Ladders, Safety Code for	2.50
A14.2-1956 †Portable Metal Ladders, Safety Code for	2.00
A119.1-1963 Plumbing, Heating and Electrical Systems in Mobile Homes, Installation of	1.00
A119.2-1963 Plumbing, Heating and Electrical Systems in Travel Trailers, Installation of	1.00

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B38.1-1955 †Food-Storage Volume and Shelf Area of Automatic Household Refrigerators, Method of Computing (NEMA HRF 1-1953)	1.50
B38.2-1956 †Household Electric Refrigerators (Mechanically Operated), Test Procedures for (NEMA HRF 2-1955)	2.00
B38.3-1955 Methods of Rating and Testing Home Freezers (NEMA FH1-55; ASHRAE 13-1955)	1.50
B71.1-1964 †Power Lawn Mowers, Safety Specifications for	2.00
B97.1-1963 Household Refrigerators and Freezers, Safety for (UL 250-April, 1963)	.60

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★C1-1965 National Electrical Code (NFPA 70-1965)	1.00
★C5.1-1965 Lightning Protection Code (NFPA No. 78-1965)	.75
★C18.1-1965 †Dry Cells and Batteries, Specifications for [IEC 86-1, 86-2, and 86-3]	3.00
C33.1-1957 Flexible Cord and Fixture Wire, Safety Standard for (UL 62-March-1957)	Out of Print
C33.7-1957 Electrically Heated Pads and Bedding, Safety Standard for (UL 130-December-1954)	.75
C33.11-1964 Electric Heating Appliances, Safety Standard for (UL 499 June-1962)	.75
C33.12-1964 Electric Space-Heating Equipment, Safety Requirements for (UL 573 December-1962)	1.00
★C33.13-1965 Home-Laundry Equipment, Safety Requirements for (UL 560 May-1963)	.80
★C33.14-1965 Room Air Conditioners, Safety Requirements for (UL 484 December-1961)	.60

★C33.18-1965 Cord Reels, Requirements for (UL 355 April-1964)	▲
★C33.19-1965 Electrically Illuminated Frames (UL 368 February-1957)	▲
C70.1-1953 Household Automatic Electric Flatirons, Standard for (NEMA DA 1-1954)	1.00
C71.1-1964 Household Electric Ranges, Standard for (NEMA ER1-1962)	1.00
C72.1-1949 Household Automatic Electric Storage Type Water Heaters, Standard for (NEMA WH1-1949)	.90
C91.1-1958 Residential Wiring, Requirements for	.50
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• **L12 — Definitions (Including Tolerances) for Filling Materials for Bedding and Upholstery:**	
L12.1-1946 †Cotton	2.00
L12.2-1946 †Wool	
L12.4-1946 †Miscellaneous	
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★L14.12-1965 Terms Relating to Textile Materials, Definition of (ASTM D123-65)	1.00
• **L22 — Textile Fabrics, Performance Requirements:**	
†Volume I (1960 Edition)	Out of Print, Under Revision
Included: Women's and Girls' Textile Fabrics Men's and Boys' Textile Fabrics Home Furnishing Fabrics Performance Requirements for Special Characteristics and Finishes Permanent Labels, Detachable Tags, and Certification of Fabrics or Products Definition of Terms	
†Volume II (1960 Edition)	Out of Print, Under Revision
Test Methods to be Used with the L22 Standards	
• **L24 — Institutional Textiles, Performance Requirements for:**	
(Part VIII, Test Methods, is a necessary companion volume to any or all of the following L24 Parts, except Part V and Part VI. Part VIII therefore must be purchased with any or all of the following L24 Parts, except Part V and Part VI.) (Special price of complete L24-1963 series, $10.00)	
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L24.6.1-1963 †Part VI, Definitions of Textile Terms for Institutional Textiles	1.50
L24.7.1-1963 †Part VII, Special Characteristics and Finishes for Institutional Textiles	1.50
†Part VIII, Test Methods to be Used with Parts I, III, IV, and VII	1.50
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★PH1.31-1965 †Brittleness of Photographic Film, Method for Determining the	2.00
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PH3.27-1949 (R1957) †Lantern Slide Projectors, Specifications for	1.00
PH3.28-1945 (R1957) †Slidefilm Projectors, Specifications for	1.00
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PH3.31-1958 †Photographic Enlargers, Methods for Testing	1.50
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PH5.1-1959 †Microfilm Readers for 16mm and 35mm Film on Reels, Specifications for	1.00
PH5.5-1961 †Micro-Opaques, Specifications for [ISO R60]	2.00
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X2.2.1-1955 (R1964) Redesignated and Reaffirmed as X4.4-1955	
X2.4.1-1951 (R1964) Redesignated and Reaffirmed as X4.3-1951	
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- Domestic Gas Ranges:

Z21.1.1-1964 Free Standing Units, Volume I, Approval Requirements for, with Addenda Z21.1.1a-1965	2.45
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Z21.1.2-1964 Built-in Domestic Cooking Units, Volume II, Approval Requirements for, with Addenda Z21.1.2a-1965	2.50
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Z21.2-1949 (R1962) Gas Hose for Portable Gas Appliances, Listing Requirements on	1.00
Z21.5.1-1962 Type I Clothes Dryers, Volume I, Approval Requirements for, with Addenda Z21.5.1a-1965	2.20
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Z21.6-1962 Domestic Gas-Fired Incinerators, Approval Requirements for, with Addenda Z21.6a-1963 and Addenda Z21.6b-1965	2.55
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★Z21.8-1965 Domestic Gas Conversion Burners, Requirements for Installation of	.75
Z21.9-1962 Hot Plates and Laundry Stoves, Approval Requirements for	2.00
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Z21.11.2-1962 Unvented Room Heaters, Approval Requirements for Gas-Fired Room Heaters, Volume II, with Addenda Z21.11.2a-1964 and Addenda Z21.11.2b-1965	2.65
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Z21.17-1962 Domestic Gas Conversion Burners, Listing Requirements for, with Addenda Z21.17a-1964 and Addenda Z21.17b-1964	2.75
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Z96.1-1963 Oil-Fired Central Furnaces, Standards for Safety (UL 727 August-1961, 3rd ed)	1.25
★Z112.1-1965 Portable Fire Extinguishers, Installation of (NFPA No. 10-1965) (Partial revision of Z112.1-1964)	.60
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